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(Cooper)

OTK

*Monsieur Nicolas, de Manheim
avec les complimens de
Edw. J. Cooper.*

CATALOGUE

OF

STARS NEAR THE ECLIPTIC,

OBSERVED

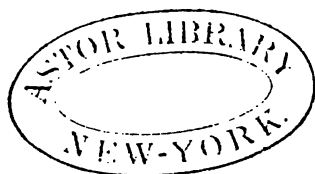
AT MARKREE DURING THE YEARS 1854, 1855, & 1856,

AND WHOSE

PLACES ARE SUPPOSED TO BE HITHERTO UNPUBLISHED.

VOL. IV.
CONTAINING 14,951 STARS.

Printed at the Expense of Her Majesty's Government, on the recommendation
of the Royal Society.



DUBLIN:

ALEX. THOM & SONS, PRINTERS & PUBLISHERS, 87, ABBEY-STREET.
TAYLOR & FRANCIS, RED LION COURT, FLEET-STREET, LONDON.

1856.

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P R E F A C E .

WITH the publication of this fourth volume terminate my appeals to the favour of the Royal Society, and the liberality of Her Majesty's Government.

I cannot allow its issue to take place without recording my grateful sense of the honour conferred upon the Markree Observatory, and the fact that the countenance bestowed upon the work in such high quarters was the main incentive to the perseverance of my fellow-labourers and of myself.

A supplementary volume will be necessary to complete the catalogue of stars which will appear in our charts; some zones examined being still unpublished, and a few not yet observed.

In the preface to the first volume it was stated, that on each of two nights more than 500 stars were noted. Since that date, there have been observed, 525, April 27, 1853—923, February 20, 1854—1172, November 24, 1854—1387, January 17, 1855; and 644, February 13, 1855. To Mr. Graham's untiring exertions, aided by Mr. C. Robertson, I am indebted for these results.

In the same preface an estimate was given of the probable error in right ascension and declination, deduced from 1345 known stars, equal as to the former to $0^{\circ} 288$, and to the latter to $4'' 27$. Conceiving that it might be satisfactory to Astronomers to have the statement repeated from the more favourable data now in our possession, I requested Mr. Graham to undertake the necessary investigation, and from 4576 differences between places of the same stars taken in different zones, it appears that the probable error of one observation, including error of zero point is in $\alpha = 0^{\circ} 205$, and in $\delta = 3'' 20$; and that the probable error of one observation, cleared of error of zero point is in $\alpha = 0^{\circ} 178$, and in $\delta = 2'' 67$. We think that these results merit a few remarks. In the first place the net error of one observation in right ascension,

viz. $0''.178$ here obtained, is *precisely equal* to the net error of one observation in declination = $2''.65$, which is just what theory would lead to from the construction of the Micrometer which has been used throughout, and furnishes a valuable test of the accuracy of the calculations, necessarily somewhat long where so many stars were taken, interspersed through the whole series of zones, embracing a period of eight years. Secondly—with an impatience not unnatural, the first 2860 differences were examined in the course of the work, and the respective results from them were $0''.203$, and $0''.178$, and $3''.19$, and $2''.65$; all but coincident with the final results given above. Thirdly—the errors in the zero point are in some cases considerable. This was inevitable where we were dependent upon the older catalogues, such as Piazzi and Lalande for our authorities, as in these the original errors of observation would be increased by the unknown proper motions of the stars.

The number of stars given in the present volume is 14951, and the total number in the four volumes is 60066. The known stars observed during the period embraced in this volume amount to 2465, and in the previous volumes, 6500, making a total of 8965. There have been also observed more than once, 3896 stars registered in our catalogues, some of these three times. The observations made, exceed 72950 in seven years and eight months. An Appendix is added to this volume, containing stars ascertained here to be missing of the Markree, Rümker, Weisse, Lalande, and Argelander catalogues, amounting to seventy-seven; errata in the first and second volumes of the Markree catalogue, not previously detected; and errors, &c., discovered in the standard catalogues of B. A. C., Rümker, Bessel, Weisse, Lalande, and Argelander.

EDWARD J. COOPER.

MARKREE CASTLE, *November, 1856.*

APPROXIMATE MEAN PLACES

FOR JANUARY 1, 1850,

OF

110 STARS NEAR THE ECLIPTIC,

OBSERVED IN JUNE, 1854, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
5	II	^{h. m. s.} 16 31 20	[°] —20 56.5	5	IO	^{h. m. s.} 17 5 59	[°] —20 55.1
5	II	34 22	21 9.3	5	IO½	6 3	20 57.6
5	II½	38 42	21 4.6	5	IO	7 11	20 51.5
5	IO½	39 46	20 53.5	5	II	7 31	20 52.5
5	II	41 35	20 53.5	5	IO	8 5	20 58.8
5	II	42 57	21 5.8	5	IO½	8 26	20 56.3
5	II½	43 8	21 7.6	5	IO	10 0	21 3.2
5	II	45 16	20 58.4	5	9½	10 24	20 54.7
5	IO½	46 51	20 55.1	5	II	10 42	20 53.8
5	9	49 2	21 8.8	5	IO½	11 6	20 56.0
5	II	50 40	20 52.6	5	II	11 45	21 9.5
5	9	54 46	21 11.5	5	II	13 18	21 7.5
5	II	55 38	20 51.1	5	12	13 26	21 7.3
5	II	56 41	20 59.3	5	II	15 13	20 57.1
5	IO	57 14	21 6.4	5	IO	16 36	21 2.3
5	IO½	58 20	20 50.5	5	12	17 3	20 56.5
5	II	58 46	20 52.5	5	IO½	17 55	21 3.1
5	IO½	59 10	21 6.8	5	II	20 38	21 0.9*
5	IO	16 59 31	21 8.1	5	II½	21 59	21 9.3
5	II½	17 0 27	20 53.7	5	IO	22 37	21 5.6
5	II	2 43	21 6.3	5	9½	23 9	21 6.0
5	IO½	3 35	20 49.7	5	9	24 22	21 11.4
5	II	4 23	21 6.8	5	II	24 26	21 4.1
5	9½	4 28	20 58.9*	5	9½	25 1	21 4.8
5	II½	17 4 42	—21 4.1	5	II	17 25 43	—20 57.3

* (4).

B

APPROXIMATE MEAN PLACES OF STARS.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
5	11	17 25 47	20 56.6	5	10½	17 42 38	21 7.0
5	10	26 38	20 53.5	5	11	43 37	21 5.0
5	9½	26 51	21 5.9	5	11	45 56	20 57.4
5	11½	26 56	21 6.2	5	11	45 58	20 57.1
5	11	27 31	21 11.8	5	11½	47 27	21 8.3
5	10½	28 27	21 5.4	5	11	48 4	21 7.8
5	10½	28 36	21 4.4	5	11½	49 31	21 2.8
5	8½	28 44	21 9.5	5	11½	49 57	21 7.4
5	11	29 34	21 4.4	5	11½	50 1	21 7.0
5	11	29 58	21 2.7	5	11	51 13	21 8.3
5	11	30 2	21 9.5	5	11	52 45	21 7.9
3	11	30 44	21 0.2	5	11½	52 53	21 7.8
5	10½	31 2	21 1.4	5	11	53 34	20 55.9
5	11	32 9	20 55.7	5	10½	54 17	20 56.0
5	10½	33 19	21 13.1	5	11	54 33	20 54.8
5	11	33 58	20 58.4	5	10	55 39	20 58.9
5	11	33 59	20 57.3	5	11	55 57	20 56.0
5	10½	34 1	21 7.3	5	10	57 7	20 57.2
5	11	35 3	20 53.4	5	11	57 38	21 7.1
5	11½	35 5	20 53.7	5	10	57 50	21 4.1
5	11½	35 24	20 54.3	5	10	17 59 21	20 51.5
5	11	36 40	21 3.7	5	10½	18 0 45	20 50.8
5	11	36 48	21 6.9	5	11	2 36	20 53.8
5	10	36 56	21 1.5*	5	11½	3 9	21 7.0
5	10½	38 27	21 8.2 :	5	11	3 22	21 8.3:†
5	12	38 29	21 3.7	5	11	4 45	21 5.1
5	10	38 30	21 1.5	5	11½	5 35	20 51.8
5	11	38 52	21 2.4	5	11	6 46	21 2.0
5	10	42 15	20 54.9	5	11	8 37	21 7.2
5	11	17 42 27	21 5.7	5	11½	18 9 58	21 5.6

* (4).

† N. of double.

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

855 STARS NEAR THE ECLIPTIC,

OBSERVED IN JULY, 1854, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
11	11	17 37 15	22 45.7	25	11 $\frac{1}{2}$	17 52 41	19 57.8
11	11 $\frac{1}{2}$	38 18	22 32.9	17	12	52 53	22 5.5
11	11	39 27	22 33.8	17	10 $\frac{1}{2}$	53 38	21 58.5
11	11	40 53	22 39.0*	17	10 $\frac{1}{2}$	53 50	21 58.8
11	10 $\frac{1}{2}$	41 22	22 39.1*	11	11	53 57	22 47.0
11	11	41 47	22 37.0	17	10 $\frac{1}{2}$	54 18	21 55.8:
11	11 $\frac{1}{2}$	44 1	22 35.8	25	11 $\frac{1}{2}$	54 21	19 54.5
11.	11 $\frac{1}{2}$	45 4	22 44.2	25	11 $\frac{1}{2}$	54 25	19 51.6
11	11 $\frac{1}{2}$	45 21	22 36.3	25	10 $\frac{1}{2}$	54 36	19 50.8
11	11 $\frac{1}{2}$	45 23	22 32.8	26	11	54 41	20 49.9
11	11 $\frac{1}{2}$	46 47	22 45.1	25	11 $\frac{1}{2}$	54 42	19 53.3
17	11	47 15	22 0.3	11	10	55 8	22 41.3
17	11	48 39	21 55.7	26	11	55 10	20 45.8
11	11	48 42	22 41.3*	26	10 $\frac{1}{2}$	55 19	20 39.4
17	11	48 46	22 3.3	26	11 $\frac{1}{2}$	55 38	20 38.5
17	10 $\frac{1}{2}$	49 12	21 58.5	26	10 $\frac{1}{2}$	55 39	20 37.0
17	11	50 9	22 4.6	11	11 $\frac{1}{2}$	55 50	22 32.1
17	11 $\frac{1}{2}$	50 14	22 8.0	17	11	55 52	21 54.6
17	11	50 19	22 6.7	11	11 $\frac{1}{2}$	56 14	22 36.2
11	10	50 43	22 36.8	25	10	56 23	20 3.2
11	9 $\frac{1}{2}$	50 46	22 38.3	17	10 $\frac{1}{2}$	56 26	21 56.0
11	11	51 44	22 33.8	17	10	56 31	21 56.7
17	11 $\frac{1}{2}$	51 49	22 4.4	17	11	56 38	21 55.5
26	9	52 8	20 47.4	25	10	56 45	19 58.3*
17	11 $\frac{1}{2}$	52 11	22 3.0	11	11 $\frac{1}{2}$	56 52	22 37.7
26	10	52 12	20 30.5	17	10	57 2	22 36.0:
17	11 $\frac{1}{2}$	52 22	22 3.6	26	11	57 3	20 33.9
11	11 $\frac{1}{2}$	52 34	22 38.2	17	10 $\frac{1}{2}$	57 5	21 58.8
26	10	52 38	20 39.0	25	10	57 16	19 57.2
11	11 $\frac{1}{2}$	17 52 41	22 34.9	26	11 $\frac{1}{2}$	17 57 17	20 37.5

* (4).

APPROXIMATE MEAN PLACES OF STARS.

Days Obs.	Mag.	α .			δ .	Days Obs.	Mag.	α .			δ .
		^{h.} 17	^{m.} 57	^{s.} 18	[°] —22 43.6			^{h.} 18	^{m.} 3	^{s.} 27	[°] —20 50.8
11	11					26	11				
11	11½		57	19	22 44.2	11	11		3	30	22 46.3
11	11½		57	32	22 43.5	25	11½		3	31	20 6.6
25	11		57	38	19 53.3	25	11		3	37	20 3.8*
25	11		57	43	19 57.3	26	11		3	48	20 55.1
17	11		57	52	22 5.5	17	11		3	50	22 1.2
26	10½		58	28	20 39.0	25	11½		3	52	20 3.0
26	11		58	28	20 33.6	25	9½		3	53	20 10.1
26	11		58	41	20 46.5	11	11½		4	0	22 43.1
11	11		58	46	22 52.4	17	11		4	9	22 4.9†
26	11		59	2	20 43.8	11	9		4	14	22 51.8
17	10		59	19	22 9.6	17	11		4	15	22 6.5
25	9½		59	32	19 57.4	11	9		4	21	22 45.0
26	11	17	59	49	20 46.5	17	10		4	21	22 4.2
11	11½	18	0	7	22 42.8	26	11		4	21	20 33.1
11	10		0	9	22 47.6	26	11		4	45	20 30.9
11	11		0	24	22 33.4	25	10½		4	48	20 7.5
11	11		0	32	22 35.3	25	10		4	51	19 51.1*
26	12		1	9	20 50.9	26	11		4	54	20 31.5
11	11½		1	19	22 49.5	11	11		5	1	22 42.8‡
17	11		1	24	22 6.7	11	11½		5	1	22 48.2
26	10½		1	24	20 54.1	17	11		5	24	22 6.7
25	11		1	36	19 50.4	11	11		5	29	22 46.3
11	11½		1	38	22 42.1	17	9½		5	40	21 53.0
25	11		1	40	20 3.9	17	9½		5	43	22 3.7
17	11		1	49	21 56.5	26	11		5	48	20 46.0
17	11		1	52	22 9.0	11	10½		6	1	22 38.0§
11	11		1	55	22 31.9	25	10		6	8	19 57.7
17	11½		2	4	21 57.0	25	10		6	9	19 58.0
11	11½		2	9	22 33.7	11	10½		6	18	22 46.7
17	11		2	15	22 5.9	25	11		6	24	19 53.3
25	10½		2	20	19 56.3	25	11		6	25	19 50.6
17	10½		2	41	22 7.8	25	9		6	28	19 58.5
25	11		2	41	20 6.2	25	10½		6	29	19 54.5
26	11	18	3	17	—20 43.4	26	11	18	6	43	—20 44.7

* L. of double.

† An 11½ N.

‡ N. of double.

§ L. of 4.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	^{° ' "}			^{h. m. s.}	^{° ' "}
25	9½	18 6 44	—19 59.8	17	11	18 9 27	—22 1.1
24	12	6 48	20 53.6	22	11	9 27	23 32.8
22	12	6 51	23 49.7	17	12	9 38	22 1.4
25	—	6 51	19 52.7	25	10	9 46	20 5.8
24 26	11	7 0	20 51.8	24	12	9 50	21 4.9
17	12	7 7	21 54.8.	24	11½	9 52	21 2.5
17	11	7 10	21 53.0	25	10	9 56	20 8.7
11	11	7 12	22 34.2	11	11½	9 59	22 43.9
17	11	7 14	21 57.4	17	12	10 4	21 59.7
11	11½	7 25	22 36.4	26	11	10 23	20 34.3
11	11½	7 25	22 39.6	25	11	10 46	20 6.3
17	11½	7 32	22 2.4	11	11	11 8	22 35.2
17	11	7 43	21 59.5	11	10½	11 14	22 33.9
11	9½	7 45	22 34.3	24	10½	11 18	20 59.3
25	11	7 54	19 51.5	26	10	11 23	20 33.8
26	11	7 55	20 35.5	11	11	11 28	22 32.7
24	11½	7 57	20 54.3	22	11½	11 32	23 40.3
25	10	8 0	19 49.3	11	11	11 37	22 36.5
24	11	8 5	20 58.1	24	10	11 47	21 1.0†
17	10½	8 7	21 58.3	22	11½	11 49	23 37.0
24	11½	8 11	20 52.5	24	10½	11 54	21 2.0
17	11½	8 12	22 1.9	22	11½	11 55	23 30.1
22	12	8 18	23 33.4	17	11	12 2	22 8.3
24	11½	8 22	20 53.0	25	11½	12 5	20 7.5:
25	9½	8 24	19 47.2	17	11½	12 8	21 59.3†
22	12	8 27	23 36.6	17	10½	12 10	21 52.0
25	11½	8 35	19 50.6	24	10½	12 19	20 59.1†
26	11½	8 44	20 49.0	24 26	10½	12 20	20 54.1
25	11½	8 45	19 50.4*	25	11½	12 20	20 0.8
11	11	8 58	22 33.2	11	12	12 43	22 33.6
26	11½	9 9	20 48.4	25	11½	12 49	20 6.1
17	11	9 13	22 0.5	11	11	12 53	22 34.9
25	11½	9 22	19 52.4	22	12	12 53	23 48.5‡
11	12	9 24	22 34.6	17	10	12 55	22 8.8
22	11	18 9 24	—23 37.9	22	11	18 13 10	—23 47.7

* S. of double.

† (4).

‡ L. of double.

Days. Obs.	Magn.	α .			δ .	Days. Obs.	Magn.	α .			δ .
		^{h.} ₁₈ ^{m.} ₁₃ ^{s.} ₃₇			[°] ₂₀ ['] _{33.2}			^{h.} ₁₈ ^{m.} ₁₆ ^{s.} ₁₃			[°] ₂₃ ['] _{47.2}
26	11					22	11½				
22	10	13 39	23	39.0		11	11	16 27	22	45.9	
24	10	13 41	21	8.9	17	10	16 29	22	0.5		
26	10½	13 44	20	39.9	25	12	16 30	20	7.2		
24	11½	13 45	21	5.7	17	11	16 38	21	52.0		
17	11	13 49	21	48.5	22	9½	16 58	23	33.5		
11	11	13 55	22	36.8	25	12	16 59	20	4.3		
22	10	13 55	23	38.9	26	11	16 59	20	38.8		
11	10½	14 0	22	40.5	24	11½	17 4	21	1.0		
22	11	14 6	23	48.9	26	11	17 5	20	49.5		
25	11	14 6	19	52.7	24	11	17 12	21	8.8		
25	11	14 17	19	50.0	24	11½	17 13	21	6.5		
22	11	14 18	23	35.6	11	11	17 14	22	43.8		
26	11½	14 22	20	34.8	11	11	17 16	22	48.0		
24	11	14 23	20	52.4	25	11	17 17	20	4.6		
11	11	14 25	22	42.6	26	11	17 18	20	42.7		
24	11½	14 27	20	51.8	24	11	17 21	21	7.4		
24	10½	14 40	20	53.8	22	10½	17 24	23	45.9		
22	11	14 43	23	37.3	17	11	17 32	22	2.1		
11	11	14 45	22	46.6	17	11	17 38	22	1.9		
17	9½	14 46	21	59.3*	26	11	18 2	20	48.8		
26	11	14 48	20	41.7	24	11½	18 16	21	8.1		
17	9	14 55	22	6.7	11	11½	18 20	22	49.6		
26	10½	15 0	20	48.0	22	10	18 21	23	48.6		
17	10	15 7	21	53.2†	22	11½	18 23	23	46.8		
25	10½	15 8	19	56.2	24	11½	18 25	21	7.1		
24	10	15 29	20	56.6	11	11	18 32	20	50.1		
17	10	15 32	21	58.8*	24	11	18 36	21	9.0		
22	12	15 32	23	49.6	25	11	18 40	20	1.6†		
22	11	15 50	23	43.4	17	11½	18 51	21	51.8		
24	11	15 50	20	57.3	22	10	18 54	23	33.2		
24 26	9	16 1	20	51.4	25	11½	18 56	20	2.9		
25	11½	16 2	20	7.6	11	11	19 1	22	49.0		
11	11	16 7	22	41.0	22	9	19 9	23	39.0		
11	11	18 16 11	22	35.0	26	10	18 19 11	20	47.4		

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	10 $\frac{1}{2}$	^{h. m. s.} 18 19 27	[°] —22 8.1	11	12	^{h. m. s.} 18 21 56	[°] —22 33.8
24	11	19 29	21 7.2	11	11 $\frac{1}{2}$	22 8	22 35.9
26	11	19 34	20 45.8	25	10	22 8	20 2.7
26	11	19 37	20 41.1	22	11 $\frac{1}{2}$	22 14	23 33.7*
20	11 $\frac{1}{2}$	19 38	18 54.1	26	11 $\frac{1}{2}$	22 27	20 47.9
20	11	19 39	18 53.4	22	11	22 28	23 36.4
22	11	19 54	23 46.2	24	10 $\frac{1}{2}$	22 32	20 58.4
17	11 $\frac{1}{2}$	19 58	21 55.2	11	10	22 35	22 48.5
26	11	20 10	20 44.2	17	10	22 36	21 50.2
24 26	11	20 14	20 54.0	20	11 $\frac{1}{2}$	22 38	19 1.7
17	11	20 19	22 8.9	20	11	22 39	19 3.7
20	11 $\frac{1}{2}$	20 19	19 3.1	20	11	22 43	19 5.6
20	11 $\frac{1}{2}$	20 19	19 1.1	24	11 $\frac{1}{2}$	22 46	20 53.0
22	10	20 19	23 45.1	17	11 $\frac{1}{2}$	22 47	21 55.5
17	11	20 21	21 55.4	22	Neb.	22 47	23 34.5
22	12	20 21	23 45.6	24	11 $\frac{1}{2}$	22 50	20 53.9†
17	10 $\frac{1}{2}$	20 24	22 7.0	20	11 $\frac{1}{2}$	22 58	19 5.4
25	10 $\frac{1}{2}$	20 35	19 50.1	26	11 $\frac{1}{2}$	23 2	20 49.0
24	11	20 36	20 51.0	11	10 $\frac{1}{2}$	23 5	22 48.9
11	10	20 37	22 46.4	25	11 $\frac{1}{2}$	23 6	20 0.4†
20	10 $\frac{1}{2}$	20 40	19 4.8	25	9 $\frac{1}{2}$	23 7	20 3.2
25	10 $\frac{1}{2}$	20 46	19 50.1	17	9 $\frac{1}{2}$	23 11	22 9.4
22	10 $\frac{1}{2}$	20 53	23 49.1	25	12	23 16	20 6.5
22	10 $\frac{1}{2}$	20 56	23 47.5	26	11 $\frac{1}{2}$	23 30	20 50.2
26	11	20 56	20 41.5	20	12 $\frac{1}{2}$	23 40	19 8.3
25	10 $\frac{1}{2}$	21 2	19 56.4	20	12	23 49	19 3.9
25	11	21 15	19 46.8	22	11	23 58	23 51.3
22	10	21 22	23 51.5	17	11 $\frac{1}{2}$	24 1	21 56.5
24 26	10 $\frac{1}{2}$	21 25	20 54.7	22	11	24 1	23 47.0
17	11	21 33	22 3.7	22	11	24 2	23 37.8
17	11 $\frac{1}{2}$	21 37	22 2.8	24	11	24 5	21 7.2
24	11	21 44	20 56.8	17	11	24 10	21 58.1
11	11 $\frac{1}{2}$	21 46	22 36.8	17	11 $\frac{1}{2}$	24 10	21 55.8
26	11 $\frac{1}{2}$	21 51	20 51.0	22	9 $\frac{1}{2}$	24 12	23 37.5
24	11	18 21 54	—20 52.7	17	11	18 24 16	—21 56.6

* Seemed nebulous.

An 11 $\frac{1}{2}$ close f.

† (4).

APPROXIMATE MEAN PLACES OF STARS.

Days Obs.	Mag.	α .			δ .	Days Obs.	Mag.	α .			δ .
		^{h.} 18	^{m.} 24	^{s.} 16	[°] —21 7.0			^{h.} 18	^{m.} 27	^{s.} 22	[°] —19 57.2†
24	11½					25	9				
22	11½		24	21	23 44.1	20	11		27	23	18 58.2
24	10½		24	25	21 8.6	26	11½		27	27	20 46.4
20	10½		24	27	18 47.2	25	11		27	32	19 51.4
25	11½		24	39	20 7.7	26	11		27	45	20 36.2
17	11½		24	40	21 58.2	17	11½		27	46	22 5.0
26	11½		24	40	20 44.7	26	12		27	52	20 46.1
26	11		24	40	20 35.7	25	11		27	53	19 56.8
20	11		24	45	18 51.9	24	10½		28	2	21 9.7
20	12		24	45	19 9.4	20	11		28	6	19 2.3
25	9		24	45	19 56.9*	26	10½		28	12	20 45.3
26	11		24	51	20 34.8	25	9		28	13	19 53.8
17	11½		24	56	21 58.9	26	11		28	15	20 46.7
25	10½		25	12	20 2.7	20	11½		28	20	18 57.5
25	10½		25	12	19 52.9	22	10		28	21	23 42.8
24	11		25	14	21 8.1	26	11		28	22	20 41.1
20	11		25	18	19 6.7	17	11½		28	24	22 9.2
25	11		25	21	19 54.4	22	11½		28	24	23 43.78
20	11		25	25	19 7.4	22	11		28	25	23 33.3
17	11		25	29	22 10.0	20	10½		28	38	18 57.5
17	11		25	33	21 56.9	25	11½		29	5	20 6.8
20	11		25	47	18 55.8	24	11½		29	21	20 58.2
24	10		25	50	20 58.7	25	11		29	22	20 8.8
22	10½		26	3	23 45.0	24	11		29	28	20 58.7†
22	10½		26	11	23 43.6	26	11½		29	38	20 35.8
24	11½		26	12	20 54.7	24	10½		29	39	20 52.4
26	10		26	34	20 48.6	22	11½		29	53	23 36.4
20	12		26	40	18 57.9	20	9½		29	54	18 54.4
22	11		26	41	23 43.0	20	12		29	55	19 6.1
25	11		26	46	19 51.3†	25	11½		29	56	20 6.9
20	11½		26	48	19 5.7	17	11		29	59	21 54.6
20	11½		26	52	19 2.2	26	11½		30	0	20 37.7
17	11		26	59	22 1.9	20	11		30	2	19 5.5
22	10½		27	9	23 48.7	17	10½		30	17	21 53.7
20	11	18	27	20	—19 0.9	22	10	18	30	28	—23 48.5

* Small companion.

† L. of double.

‡ (4.)

§ An 11½ J.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
25	10 $\frac{1}{2}$	18 30 45	—19 54.6	24	12	18 33 59	—21 8.2
17	11	30 48	22 2.8	24	10 $\frac{1}{2}$	34 5	21 8.8
20	12	30 51	18 52.2	25	11	34 21	20 5.9
26	9 $\frac{1}{2}$	30 51	20 52.2	20	11	34 22	18 59.7
22	11	30 52	23 51.3	26	11 $\frac{1}{2}$	34 47	20 33.4
24	11	31 3	21 6.4	26	11 $\frac{1}{2}$	34 50	20 34.0
22	10 $\frac{3}{4}$	31 15	23 48.8	22	11	34 53	23 49.0
20	11	31 22	19 11.1	25	9	35 3	20 2.1
17	11	31 38	22 4.4	22	10	35 4	23 33.0
25	10 $\frac{1}{2}$	31 43	19 52.9	22	11 $\frac{1}{2}$	35 7	23 48.8
26	11 $\frac{1}{2}$	31 50	20 36.4	22	11	35 11	23 45.0
25	11	32 7	19 54.1	25	10	35 12	20 3.3
25	11	32 11	19 53.9	24	12	35 15	21 4.9
20	11	32 18	19 4.2	20	9	35 17	18 54.3
24	12	32 18	20 53.1	17	11	35 18	21 55.9
20	10 $\frac{1}{2}$	32 24	19 3.0	24	11 $\frac{1}{2}$	35 18	21 6.5
24	11	32 28	20 53.2	17	10 $\frac{1}{2}$	35 21	21 58.6†
25	11 $\frac{1}{2}$	32 29	19 54.6	24	10 $\frac{1}{2}$	35 22	21 5.6
24	12	32 32	20 56.6	25	12	35 22	20 2.5
22	12	32 34	23 35.9	20	11	35 26	19 2.5
17	11 $\frac{1}{2}$	32 41	22 5.7	20	11	35 32	19 1.8
24	11	32 41	20 55.3	17	11	35 35	21 59.3
25	11 $\frac{1}{2}$	32 41	19 53.4	25	12	35 37	20 1.9
22	11	32 46	23 37.1*	25	12	35 46	20 4.4
22	11	32 49	23 34.6	26	11	35 52	20 44.9
25	11 $\frac{1}{2}$	32 49	19 56.8	22	9	35 53	23 47.1
17	12 $\frac{1}{2}$	32 58	22 7.2	20	11 $\frac{1}{2}$	36 1	18 59.6
25	10	33 3	20 6.0	26	12	36 3	20 48.4
24	10 $\frac{1}{2}$	33 8	20 54.3	22	10 $\frac{1}{2}$	36 13	23 46.0
22	12	33 14	23 40.8	26	10 $\frac{1}{2}$	36 15	20 36.5
26	11	33 17	20 50.4	25	11	36 38	20 6.3
26	11	33 21	20 54.4	20	11 $\frac{1}{2}$	36 46	19 8.2
22	10	33 33	23 44.0	22	10 $\frac{1}{2}$	36 48	23 48.5
17	12	33 37	22 7.5	22	11	36 49	23 49.7
22	10	18 33 51	—23 39.7	20	11 $\frac{1}{2}$	18 36 53	—19 11.0

*L. of double.

†(4.)

APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		^{h.} 18	^{m.} 37	^{s.} 3	[°] —20			^{h.} 18	^{m.} 40	^{s.} 42	[°] —20
25	12				3.8	26	10½				46.9
26	10½		37	9	20 30.8	22	12		40	51	23 38.2
25	11		37	12	20 6.9	26	10½		40	54	20 45.4
25	11		37	24	20 6.9	22	11		41	1	23 34.5
20	10½		37	29	19 8.9	22	11		41	14	23 50.3
17	11½		37	35	22 7.8	26	11½		41	14	20 50.3
26	10½		37	38	20 41.9:	26	11½		41	17	20 48.9
22	12		37	39	23 48.5	20	10½		41	35	19 3.2
20	11		37	43	19 3.7	25	10		41	36	20 1.1*
20	11½		37	51	19 6.1	25	10		41	51	20 4.5
20	9½		37	55	19 8.9	22	10½		41	53	23 50.9
26	9½		38	4	20 37.2	26	11		42	0	20 51.7
17	11		38	18	22 3.4	20	11		42	7	19 3.6
25	10½		38	23	19 50.8	26	11		42	14	20 49.2
24	11		38	31	20 59.3*	20	11		42	22	19 7.5
20	11		38	35	19 7.7	26	9½		42	34	20 36.4
17	11		38	39	22 3.1	22	10½		42	40	23 47.7
26	11		38	40	20 33.5†	20	11		42	41	19 0.7
20	9		38	45	18 54.5	20	11½		43	2	19 11.0
22	10		38	55	23 37.9	22	11		43	8	23 47.1
24	11		39	6	20 57.1	26	9		43	9	20 46.6
26	11½		39	12	20 34.9	26	9		43	42	20 42.5*
26	12		39	26	20 51.1	25	10½		43	53	20 5.7
17	11		39	27	21 51.5	26	9		43	59	20 41.4*
24	11		39	40	21 1.3*	22	9		44	5	23 32.3
25	9		39	40	19 50.7	26	11½		44	19	20 37.8
20	11		39	47	19 5.4	20	11		44	33	18 52.1
20	11		39	56	19 2.2	26	11		44	35	20 37.7
20	11		39	56	19 5.0	22	10		44	47	23 51.3
22	11½		40	2	23 45.0	20	11½		44	49	18 53.3
22	12		40	3	23 54.1	26	10		44	54	20 35.4
26	11		40	5	20 34.4	22	10		45	4	23 45.3
20	11		40	23	19 3.0	20	11		45	5	18 54.2
26	10½		40	37	20 36.0	22	10½		45	22	23 45.9
20	10½	18	40	41	—19 10.3	26	11½	18	45	42	—20 30.2

* (4.)

† L. of double.

OBSERVED IN JULY, 1854.

11

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
26	11	18 44 54	—20 34.0	22	10½	18 51 37	—23 38.5
20	11	46 4	19 2.5	26	10½	51 37	20 39.8
22	10	46 22	23 41.3	25	11	51 55	20 2.2
20	11½	46 33	19 3.9	22	10½	52 8	23 41.5*
26	10½	46 35	20 52.4	22	11	52 11	23 39.1
26	11	46 38	20 50.5	22	10½	52 35	23 47.4†
20	11	46 40	19 8.7	26	11	53 30	20 41.6
20	11½	46 49	19 4.1	22	9	53 32	23 47.4
26	11	47 8	20 46.1	20	11	53 44	18 54.1§
22	11	47 13	23 43.3*	20	11½	53 49	18 52.8
22	11	47 13	23 43.8	22	11½	53 57	23 36.4
22	11	47 20	23 46.9	22	11	54 3	23 37.6
26	11	47 21	20 35.0	25	10½	54 5	20 0.8
20	8	47 27	18 53.7	26	11	54 21	20 45.8
26	11	47 57	20 44.4	25	11	54 38	19 50.9
22	11	48 19	23 44.3†	20	8	54 46	19 1.2
26	11½	48 19	20 47.3	25	10½	54 49	19 54.5
20	10	48 53	19 6.4	26	10½	54 50	20 45.8
25	11	48 55	20 8.6	20	11	55 1	19 3.2
20	11	48 56	18 56.9	25	11	55 4	20 1.5
22	10	48 56	23 48.5	22	10½	55 5	23 44.6*
25	10	49 2	20 1.0	26	11	55 23	20 43.0
26	11½	49 14	20 48.1	20	11	55 28	18 58.3*
20	10	49 27	19 3.8	22	12	55 42	23 39.1
20	10½	49 28	19 7.7	26	10½	55 49	20 43.0
26	11	49 30	20 42.3	26	10½	55 52	20 34.3
22	11½	49 36	23 34.9	26	11½	55 59	20 36.6
22	10½	49 49	23 37.8	20	10½	56 2	18 58.4
26	11	49 53	20 38.9	22	10½	56 8	23 45.4
22	11½	50 37	23 54.8	25	9½	56 21	19 54.2
25	10½	50 50	19 53.8	25	11	57 2	19 58.5*
26	11½	51 5	20 51.5	25	11	57 9	20 8.5
26	11	51 15	20 45.7	26	12	57 15	20 48.0
22	11	51 16	23 49.1	22	11½	57 19	23 46.7
25	11½	18 51 31	—20 3.5	20	11½	18 57 31	—19 1.9

* (4).

† (4). L. of group.

‡ L. of 3.

§ S. p. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
20	11	18 57 37	19 4.9	26	10	19 3 57	20 46.5
22	11	57 40	23 34.3	26	10	4 2	20 44.2
26	10½	57 50	20 45.9	26	11	4 38	20 41.7
22	11½	57 57	23 35.7	20	11½	4 46	19 0.1
26	11	58 10	20 52.0	26	12	4 52	20 44.6
20	7	58 21	18 57.7*	20	11	4 58	18 55.5
26	10	58 24	20 44.5	20	11	5 8	18 57.9
26	11	58 32	20 44.2	20	11	5 17	18 54.9
22	9	58 37	23 32.9	20	11½	5 19	18 58.1
20	10	58 51	18 57.2	26	12	5 33	20 46.8
20	11	58 54	18 55.8	20	11	5 37	18 58.1
22	10½	58 55	23 45.0	22	10	6 32	23 44.1
20	10½	58 57	18 54.3	26	11½	6 32	20 51.2
26	10½	59 0	20 47.0	20	10	7 1	18 56.1
26	11	59 12	20 47.3	25	11	7 1	19 56.2
25	11	59 37	19 55.1	22	11½	7 4	23 44.5†
25	11	59 43	19 57.5	25	11	7 20	19 55.1
22	9	18 59 50	23 41.5*	26	10	7 34	20 50.2
26	11	19 0 25	20 47.3	22	11½	7 38	23 44.4
26	11	0 56	20 36.7	26	11	7 58	20 46.6
22	11	0 57	23 44.2*	26	11	8 7	20 50.7
26	9	1 1	20 40.5	22	11	8 10	23 34.9
20	10½	1 7	19 1.3	22	11	8 17	23 41.4
25	11	1 19	19 56.3	22	11	8 25	23 36.4
20	11½	1 26	18 54.5	22	11	8 26	23 39.3
25	10	1 35	19 53.8	20	10½	8 35	18 53.1
26	11	2 15	20 47.2	25	10	8 57	19 53.3
20	10½	2 36	18 51.5	25	10½	9 5	20 8.2
20	12	2 45	18 57.0†	26	10½	9 5	20 45.6
20	11½	2 52	18 53.9	20	11½	9 26	19 8.2
20	10½	2 58	18 53.9	26	8½	9 29	20 42.3
26	11½	3 14	20 39.2	22	11½	10 12	23 51.1
26	11	3 26	20 39.6	22	11	10 13	23 45.8
26	11	3 48	20 42.1	25	11	10 14	20 2.1
26	11	19 3 48	20 44.6	22	11	19 10 22	23 44.3

* (4.)

† g. of group.

‡ Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
22	10	19 10 23	23 46.3	22	11½	19 15 13	23 37.4
26	12	10 34	20 34.6	25	10	15 16	19 56.1
26	11½	10 56	20 39.1	26	12	15 22	20 38.2
26	10	10 56	20 53.5	24	10	15 23	18 39.1
24	12	11 1	18 48.4	22	11½	15 28	23 35.8
25	11½	11 7	20 11.5	26	12	15 29	20 40.2
22	9	11 9	23 39.6	20	12	15 36	18 56.5
25	10	11 22	20 6.8	25	10	15 54	19 53.2
20	11	11 30	19 3.3*	25	11	16 6	19 51.2
22	10	11 41	23 50.5	20	11½	16 13	18 54.7
22	10	11 52	23 42.5	24	8	16 23	18 51.1
22	10½	11 59	23 46.2	20	11	16 24	18 55.7
25	11	12 33	20 2.4	20	11	16 33	18 51.8
25	11½	12 34	20 4.3	24	10	16 51	18 33.5
20	10½	12 44	18 55.8	24	10	17 4	18 39.1
25	9	12 48	19 58.0	25	10	17 10	20 5.0
22	11	12 57	23 51.4	26	11½	17 14	20 50.9
20	10½	13 2	18 54.7	25	11	17 26	19 53.5
20	10½	13 7	19 5.8	25	11	17 32	19 52.5
26	11	13 36	20 41.1	26	10½	17 32	20 36.2
25	10	13 45	19 54.5	25	11	17 39	19 53.0
22	10½	13 46	23 45.0	20	12	17 44	18 54.3†
26	11	13 49	20 44.5	20	10½	17 46	18 56.3
22	11½	13 52	23 46.1	26	12	18 25	20 36.4
26	9½	13 54	20 36.0	25	11	18 26	20 7.5
20	10	13 56	18 50.4	25	11	18 30	20 4.1
20	11½	14 7	18 58.0	20	11	18 34	18 57.7†
25	10	14 9	20 7.6	22	11	18 40	23 40.2
20	11	14 19	19 5.1	26	11½	18 40	20 37.3
25	9½	14 35	19 56.2	22	10½	18 42	23 46.7
25	10	14 49	19 53.1	22	11	18 52	23 39.6
25	9½	14 57	19 57.3	25	10½	18 55	20 8.2
22	9	15 1	23 35.7	25	11	19 26	19 54.4
22	10½	15 10	23 43.5	25	10	19 30	19 51.7
26	12	19 15 10	20 37.9	25	11	19 19 35	19 54.0

* L. of double.

† S. of double.

‡ (4.)

Days Obs.	Mag.	α .			δ .	Days Obs.	Mag.	α .			δ .
		h. m. s.						h. m. s.			
20	12	19 20 25	—19	7.9*		20	11	20 3 24	—24	1.9	
24	11	20 28	18	42.4		20	11½	3 51	24	1.9	
24	10	21 2	18	32.7		20	11½	4 7	24	7.5	
25	9½	21 23	20	1.6		20	11	4 47	24	7.6	
20	11	21 37	18	51.0		20	11	5 5	24	6.2	
20	11	21 53	18	54.4		20	10½	5 8	23	53.6	
25	10½	22 0	19	54.8		20	11½	5 18	24	6.9	
20	11½	22 12	18	52.8		20	12	6 46	23	55.8	
25	11½	22 16	19	54.5		20	11½	6 50	23	58.3	
24	12	22 30	18	41.6		20	10	6 56	23	56.5	
20	11½	22 34	18	58.1		20	10	7 14	23	56.1	
24	11	22 38	18	47.3		20	11½	8 23	23	55.4	
20	11	22 45	18	58.4		20	10	9 40	24	9.4	
24	10	22 46	18	42.8		20	10½	9 52	24	5.7	
25	11	24 20	20	5.8		20	10	10 14	23	51.7	
25	11	24 51	19	55.0†		20	10	11 6	24	9.2	
25	10	25 2	19	54.0		20	11½	11 9	24	2.2	
25	10½	25 7	20	1.6		20	10	11 15	24	9.4	
24	12	26 42	18	28.1		20	9½	12 28	23	54.1	
25	11	26 49	20	6.1		20	12	12 33	23	53.0	
24	12	26 54	18	28.6		20	12	13 41	23	59.1	
24	10½	27 24	18	29.3		20	11½	14 7	24	4.4	
24	10½	27 26	18	33.4		20	10	14 53	24	13.1	
24	12	27 56	18	45.7		20	11	16 26	23	54.2	
24	11½	28 12	18	46.9		20	11	16 26	23	52.2	
24	11	28 57	18	41.9		20	9½	17 55	23	56.1	
24	12	30 30	18	45.3		20	9½	18 13	23	57.4	
24	11	30 40	18	48.1		20	11	18 26	23	53.1	
24	11½	30 58	18	42.3		20	11	18 38	23	54.2	
24	11	31 10	18	30.0		20	11	19 8	23	48.0	
24	11½	31 20	18	42.4		20	10½	19 30	24	2.4	
20	12	19 57 54	23	54.1		20	11½	20 1	24	3.5	
20	11½	20 1 34	23	59.3		20	10½	21 9	23	53.8	
20	11½	2 46	23	58.8		20	10½	21 14	23	55.0	
20	10	20 3 2	—24	2.9		20	10	20 21 26	—23	55.2	

* S. p. of double.

† L. of double.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.			[°] ' "			h. m. s.			[°] ' "
20	10 $\frac{1}{2}$	20 22 9			—23 59.3	20	11 $\frac{1}{2}$	20 29 50			—23 54.4
20	11	22 28			23 59.9	20	11	29 56			23 53.8
20	10 $\frac{1}{2}$	23 12			24 3.0	20	9 $\frac{1}{2}$	31 8			23 59.4 [†]
20	11 $\frac{1}{2}$	24 26			23 53.8	20	10	31 15			23 55.3
20	9 $\frac{1}{2}$	24 46			24 9.3	20	9 $\frac{1}{2}$	31 51			23 51.7
20	11 $\frac{1}{2}$	24 52			24 9.4	20	12	33 16			23 52.3
20	12 $\frac{1}{2}$	25 46			23 54.0	20	11 $\frac{1}{2}$	33 20			23 51.8
20	9	26 59			24 2.7	20	12	34 11			24 6.6
20	12	27 15			24 7.8*	20	11 $\frac{1}{2}$	34 12			24 8.0
20	11 $\frac{1}{2}$	27 32			24 2.4 [†]	20	12	36 19			23 57.3 [‡]
20	11	28 20			23 54.6	20	10 $\frac{1}{2}$	36 42			24 4.0
20	10 $\frac{1}{2}$	29 11			24 11.2	20	10 $\frac{1}{2}$	20 36 45			—24 7.8
20	11	20 29 27			—23 59.7						

* An 11th N. f.

† (4.)

‡ N. p. of double.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

100 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1854, AT MARKREE.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.			[°] ' "			h. m. s.			[°] ' "
14	10 $\frac{1}{2}$	18 35 4			—22 8.7	14	10 $\frac{1}{2}$	18 42 7			—22 7.0
14	11	35 49			22 6.8	14	10 $\frac{1}{2}$	42 58			21 52.5
14	11	36 1			21 54.1	14	11	44 6			22 7.0
14	11	37 7			22 9.0*	14	11 $\frac{1}{2}$	44 29			21 53.6
14	11	39 42			21 55.0 [†]	14	12	45 7			22 8.0
14	11	39 56			21 58.2	14	11 $\frac{1}{2}$	45 37			21 57.5
14	10 $\frac{1}{2}$	40 18			22 4.8	14	11 $\frac{1}{2}$	45 43			22 8.6
14	10 $\frac{1}{2}$	40 44			21 59.5 [‡]	14	11 $\frac{1}{2}$	45 48			21 58.1
14	11	41 15			22 9.2	14	11	45 59			22 7.5
14	11	18 41 20			—22 9.1	14	10 $\frac{1}{2}$	18 47 12			—21 57.2

* S. of double.

† Last of four.

‡ (4.)

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	[°]			^{h. m. s.}	[°]
14	10½	18 47 25	-22 11.4	14	11	19 9 14	-22 3.3
14	10½	47 28	22 0.2*	14	11	9 47	22 1.1
14	10½	48 22	22 4.0	14	11½	19 9 48	21 59.0
14	10½	48 36	21 57.3	31	12	22 57 48	0 50.4
14	9	48 49	21 55.8	31	12	57 57	1 6.7
14	10½	49 0	21 56.1	31	11	58 24	1 8.2
14	10	49 26	22 9 9	31	9½	22 58 55	1 10.8
14	10	49 41	22 10.0	31	11	23 0 19	1 2.3
14	11½	50 2	22 10.2	31	12	0 32	1 3.7
14	11	51 14	22 4.6	31	12	0 38	1 7.1
14	10	52 9	22 3.0	31	10	1 13	0 58.4
14	10½	52 46	22 0.6	31	10½	1 45	0 56.5
14	10	52 51	21 59.6	31	10	1 51	1 0.1*
14	10½	56 18	22 3.8	31	10½	2 5	1 0.2*
14	11	56 43	22 7.1	31	12	3 18	1 11.1
14	11	57 2	22 8.5	31	12	3 39	1 7.2
14	11	57 5	22 6.5	31	12	4 3	0 57.1
14	10	57 31	21 55.1	31	11½	4 29	0 55.3
14	11	58 5	22 8.6	31	9½	4 32	0 52.3
14	11	58 13	22 8.9	31	11	5 29	1 8.8
14	11	59 23	21 54.1	31	11½	6 2	1 4.3
14	11	59 56	21 59.4*	31	11	6 50	0 50.9
14	11	18 59 57	21 53.8	31	11	7 32	1 5.2
14	11½	19 0 36	22 9.0	31	11	7 59	1 7.9
14	11	1 18	22 7.0	31	11½	8 44	0 52.5
14	11	1 33	22 7.4	31	10½	8 47	0 51.0
14	11	1 44	21 57.6	31	11	10 44	0 52.5
14	11	1 56	21 59.7	31	11½	11 11	0 57.1
14	10	2 10	22 8.9	31	11	12 22	1 3.9
14	11	4 20	22 6.7†	31	11	12 34	1 6.6
14	11½	4 42	22 8.7	31	11½	13 57	1 4.5
14	9½	5 47	21 52.8	31	11	14 12	0 57.6
14	11	6 51	22 9.4	31	11½	14 13	0 54.3
14	11	7 0	22 3.2	31	10½	14 26	0 53.3
14	11	19 8 34	-21 55.0	31	11	23 15 58	1 6.0

* (4.)

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
31	12	^{h. m. s.} 23 17 24	[°] — 1 5.8	31	11½	^{h. m. s.} 23 21 30	[°] — 1 7.1
31	10½	20 32	1 1.4	31	11	21 51	1 7.5
31	11½	20 33	1 4.6	31	11½	22 27	1 9.1
31	11	20 47	1 4.9	31	11	22 33	1 4.4
31	10	23 21 14	— 0 51.9	31	10	23 22 37	— 0 57.0

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

799 STARS NEAR THE ECLIPTIC,

OBSERVED IN SEPTEMBER, 1854, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
28	12	^{h. m. s.} 20 7 35	[°] — 21 27.0	28	11½	^{h. m. s.} 20 27 30	[°] — 21 13.9
28	10½	9 44	21 29.3	28	11	28 16	21 26.6
28	11½	12 15	21 15.0	28	11	28 33	21 23.7
28	9½	14 19	21 19.2*	28	11½	28 49	21 24.9
28	9	15 36	21 23.6	28	11	29 0	21 21.3
28	11½	10 12	21 18.8	28	11½	30 46	21 29.2
28	10½	16 16	21 24.4	28	9½	31 45	21 19.5
28	10½	16 18	21 15.9	28	11	31 53	21 25.8
28	10	18 29	21 18.8	28	10½	32 7	21 19.6
28	10½	22 30	21 14.4	28	11½	32 10	21 27.3
28	11	23 53	21 25.5	28	11½	33 46	21 25.5
28	11	24 7	21 21.4	28	11½	20 34 22	21 16.5
28	11	25 41	21 22.1	14	12	21 18 41	19 25.5
28	11	26 2	21 29.6	26	12	18 53	18 47.4
28	11	20 26 52	— 21 23.0	26	11½	21 19 19	— 18 33.9

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	"			h.	m.	s.	"
14	11½	21	20	5	19 15.3°	14	11	21	33	33	-19 26.0
26	11		20	14	18 38.8	14	10½		33	56	19 16.7
26	10½		20	17	18 42.8	26	11		35	1	18 46.4
26	10		21	1	18 37.6	26	10		35	32	18 46.2
26	11		21	7	18 43.2	14	11½		36	9	19 24.2
14	10½		21	28	19 23.0†	27	9½		55	37	8 10.8
26	10		22	2	18 43.8	27	10		55	39	7 52.3
26	11		22	19	18 47.1	27	11½		55	43	7 56.1
26	9½		22	45	18 45.8	26	10½		56	20	8 13.5
26	9½		22	50	18 47.1‡	26	11		56	27	8 13.3
14	11½		22	53	19 23.3	26	11		56	36	8 15.1
26	10½		23	8	18 35.1	14	12		56	42	7 3.1
26	10½		23	35	18 35.1:	27	11		56	45	7 54.9
26	10		23	45	18 53.8	26	10½		56	46	8 12.8
14	10½		24	9	19 28.9	27	11½		56	52	7 58.4
26	9½		24	41	18 35.0	14	10		57	28	7 1.9
14	10		24	42	19 26.9	27	11		57	28	7 59.5
14	10½		25	26	19 13.5	26	9½		57	30	8 19.2
26	9		25	27	18 37.6	26	11		57	33	8 27.4
26	11		26	18	18 40.9†	14	11½		57	50	6 56.6
26	12		26	36	18 49.8	27	11½		57	50	8 4.1
26	10½		27	17	18 46.5	26	11		57	51	8 28.0
26	10		28	10	18 32.4	26	10½		58	49	8 18.9
26	10		28	12	18 37.6	14	11		58	55	6 47.8
26	11½		29	9	18 34.9	26	11½		59	1	8 14.5
26	11		30	10	18 44.4	26	10½		59	6	8 24.0
26	9		31	50	18 36.5‡	14	11		59	13	6 46.9
26	10		31	52	18 46.0	27	12		59	19	7 59.3†
14	8		32	13	19 34.2	27	10½		59	20	8 8.6
26	9		32	13	18 33.8	26	10½		59	30	8 18.0
14	12		32	24	19 18.3	14	12	21	59	58	7 5.9
26	11		32	59	18 38.1	27	9	22	0	1	8 5.1
26	11		33	3	18 32.4	14	10½		0	15	7 3.3
26	11		33	14	18 39.3	26	9½		0	17	8 14.4:
26	11	21	33	25	-18 34.5	26	9½	22	0	29	-8 20.2

• Double.

† (4).

‡ M.C.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	°			h.	m.	s.	°
27	11½	22	0	41	— 7 58.8	26	11	22	8	10	— 8 23.0
26	9½		0	51	8 25.5	26	9½		8	22	8 26.3*
14	10½		1	6	6 52.4	14	11½		8	36	6 52.9
14	10		1	32	6 54.8	14	9½		8	47	6 53.5
26	11		1	50	8 22.3	14	10		8	57	6 52.5
26	11½		1	58	8 16.6	27	11½		9	17	8 10.3
27	11½		1	59	7 52.2	20	10½		9	20	12 51.6
14	11		2	7	7 6.2*	20	9		9	32	12 39.8
27	11½		2	12	8 5.3	26	9		9	56	8 20.0
14	11		2	33	6 53.9	14	12		10	13	6 57.2
26	11½		2	58	8 15.3	14	11		10	21	6 55.3
26	10½		3	32	8 25.3	14	11½		10	31	7 2.9
14	10½		3	34	7 0.9	14	11		10	39	7 0.8
14	10		3	43	6 57.6	14	10		11	23	7 8.5
26	10½		3	43	8 15.9	26	10½		11	29	8 18.9
14	12		3	55	7 3.7	26	11½		11	43	8 25.0
14	12		4	1	7 5.1	26	10½		11	49	8 19.4†
26	11		4	2	8 14.2	26	9½		11	51	8 25.9
27	11		4	10	8 10.2	20	9½		12	16	12 40.1
14	11½		4	16	7 3.9	14	11		12	28	6 54.7
27	11		4	33	8 3.3	20	9½		12	36	12 41.0†
26	10½		4	37	8 22.0	20	9½		12	41	12 47.2
14	11½		4	51	6 54.8	14	12		12	43	6 51.4
14	12		4	54	6 58.1	26	10		13	17	8 25.5
14	10		4	59	6 53.9	26	11		13	21	8 24.6
26	10		5	12	8 21.6†	14	11½		13	24	6 52.0
26	11		5	42	8 21.8†	14	9½		13	28	6 53.5
27	12		5	45	8 9.5	26	9		13	49	8 21.6
14	11		6	25	6 57.9	20	12		14	10	12 35.5
26	11		6	30	8 14.3:	20	12½		14	14	12 51.5
20	11		6	58	12 40.1	26	9½		14	23	8 13.3
14	11		7	17	6 56.0	26	10		14	41	8 24.6
26	10		7	37	8 25.4	14	11		14	56	7 8.5
14	11		7	38	7 2.2	20	12		15	0	12 48.2
20	10½	22	7	50	— 12 34.4	26	11½	22	15	31	— 8 19.7

* L. of double.

† (4).

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	°			h.	m.	s.	°
14	11	22	15	44	7 6.9	20	11½	22	23	33	12 44.9
14	11	15	51		7 3.4	14	10	23	42		6 59.3
14	11	16	37		6 52.1	14	11½	23	48		7 4.7
14	11½	17	26		7 1.4	14	10	23	55		7 5.9
26	10½	17	51		8 29.3	26	10½	23	59		8 15.9†
20	11½	17	56		12 49.6	26	11½	24	10		8 13.3†
26	10½	17	56		8 27.6	26	11	24	10		8 11.9†
20	10	18	32		12 34.5	14	10	24	41		6 59.4‡
14	11	18	49		7 5.3	14	10½	24	47		7 7.3
14	10	18	52		6 53.2	14	11½	25	21		7 6.6
20	9½	18	58		12 40.5	14	-	25	23		7 2.9
20	9½	19	9		12 31.0	20	12	25	47		12 49.5
14	11	19	25		7 1.3	27	10	26	35		4 43.3
14	11	19	39		6 50.7	20	10½	26	49		12 37.4
26	11	19	58		8 16.5	20	10	26	50		12 44.0
14	11	20	2		7 1.6	20	10½	26	52		12 40.3
14	11	20	5		7 8.0	13	11½	27	0		4 7.8
20	11	20	15		12 31.2	14	10½	27	1		6 54.8
20	11	21	12		12 47.0	13	10½	27	4		3 52.2
20	11½	21	24		12 41.8	26	11	27	13		4 13.9
14	10½	21	29		6 54.7	26	11½	27	22		4 18.5
20	11½	21	35		12 48.9	14	11	27	41		7 1.4
20	10½	21	42		12 42.2	26	11	27	44		4 17.1
14	10	22	8		6 49.7	20	10	27	49		12 34.4
14	11	22	12		7 2.0	26	11½	27	59		4 17.1
14	11	22	29		7 2.6*	13	11	28	1		4 6.3
26	9½	22	54		8 22.0	20	11½	28	3		12 35.0
26	9½	22	54		8 21.8	27	9½	28	20		4 38.3
14	11½	22	55		7 5.5	13	11½	28	21		4 1.4
26	11½	22	55		8 23.6	20	9½	28	22		12 34.3
26	11	22	56		8 23.8	26	10	28	27		4 24.5
20	12	23	3		12 47.1	14	10	28	36		6 57.8
20	10½	23	6		12 43.7	13	11½	28	43		4 1.7
20	10	23	8		12 44.7	27	10½	28	47		4 43.6
14	11	22	23	26	— 6 54.2	26	11	22	28	50	— 4 28.3

* L. of double.

† (?) Duplicate, October 27th, 1848.

‡ (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
13	9½	22 28 55	— 4 1.2	26	11½	22 33 25	— 4 16.9
20	10½	29 6	12 47.4	13	11	33 29	4 5.8
13	10	29 15	4 3.3	20	12	33 29	12 47.7
27	10	29 24	4 46.4	27	9	33 35	4 38.8
26	10½	29 55	4 24.3	14	9	33 39	6 56.8
13	10½	30 4	3 51.0	14	11	33 49	7 1.3 *
26	11	30 4	4 13.4	20	12	33 50	12 46.3
20	12	30 6	12 41.6	27	11½	33 52	4 47.9
20	11	30 16	12 41.4	20	10	34 6	12 52.1
13	10½	30 17	3 56.0	27	11½	34 17	4 47.1
26	11	30 23	4 19.7	13	12	34 18	3 54.5
14	10½	30 25	6 54.3	26	11½	34 20	4 13.4
26	11	30 31	4 18.0	27	11½	34 23	4 55.9
14	9½	30 43	6 59.5	20	10	34 24	12 43.3 *
27	8½	30 49	4 37.5	27	9	34 27	4 49.4
27	8½	30 49	4 33.0	20	9	34 49	12 39.2
27	11	31 15	4 38.0	27	11	34 50	4 46.6
13	9½	31 17	3 57.8 *	14	10½	34 52	6 59.2
13	11	31 24	3 56.9	13	10	34 58	4 2.1
14	11½	31 25	6 58.4 *	14	10	34 59	7 1.1
26	11½	31 28	4 13.8	26	10½	35 3	4 18.5
26	9½	31 35	4 17.6	13	10	35 4	3 49.7
26	11½	31 38	4 12.5	27	10½	35 13	4 35.1
26	9½	31 54	4 18.0 †	26	9½	35 13	4 12.7
27	11	31 59	4 39.7	26	11	35 17	4 24.4
20	10½	32 1	12 44.2 *	27	10½	35 18	4 50.3
20	11	32 5	12 45.7	26	9½	35 28	4 13.0
14	11	32 14	6 52.9	14	11	35 34	6 59.0
27	11½	32 18	4 47.8	13	10	35 41	3 59.5
13	10	32 19	3 57.7 *	14	11	35 51	7 0.8
20	10	32 24	12 47.9	13	10	36 18	4 5.6
20	10	32 30	12 47.1	13	11	36 20	3 56.1
27	9	32 45	4 35.2	13	9½	36 44	3 52.8
26	11	32 55	4 13.7	14	11	36 44	6 53.7
14	9½	22 32 59	— 7 9.2	26	10½	22 36 47	— 4 22.0

* (4).

† (?) 44293 H.C.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	"			h.	m.	s.	"
27	10	22	37	0	4 46.1	26	11	22	40	37	4 14.9
13	11		37	1	3 59.0	27	11½		40	44	4 45.1
27	10		37	2	4 46.1	14	10½		40	45	7 12.4
14	10		37	11	7 1.6*	13	9		41	10	4 7.7:
14	9½		37	16	7 8.2	26	11		41	21	4 26.2
26	10½		37	32	4 25.9	26	10½		41	25	4 16.8
26	10½		37	35	4 26.8	14	10		41	35	7 2.7
26	11		37	37	4 28.8	14	11		41	42	7 6.5
27	9½		37	40	4 37.2	26	10		41	44	4 26.1
14	10½		37	47	7 3.8	14	11		41	48	7 4.0
27	10		38	0	4 34.2	13	11		42	2	3 55.1
26 27	10½		38	10	4 33.0	27	11½		42	4	4 46.9
13	11		38	26	3 53.5	13	11		42	5	4 6.9
13	11½		38	28	3 48.0	13	10		42	7	4 8.5
13	11½		38	33	3 51.8	26	11½		42	21	4 27.3
14	10½		38	43	7 5.2	27	10		42	26	4 44.4
14	10		38	43	7 8.4	14	10½		42	28	7 5.5
26	11½		38	55	4 18.6	26	11		42	42	4 24.1
14	11		38	56	7 8.3	26	10½		43	0	4 22.6*
26	11		39	14	4 26.8	27	10½		43	0	4 37.5
27	11½		39	17	4 33.7	27	10		43	8	4 38.8
13	11		39	25	3 52.7	26	11½		43	14	4 23.5*
27	10½		39	33	4 41.2*	27	10½		43	16	4 48.8
26	11		39	34	4 13.2	13	11½		43	17	3 50.2
14	9½		39	35	6 55.1	14	11		43	26	7 4.9
13	11½		39	43	4 0.3	27	10½		43	31	4 37.7
27	10		39	59	4 38.6	13	9		43	38	4 1.7
13	9½		40	4	3 47.2	13	10½		43	49	4 4.4:
13	11		40	5	4 2.5	27	10		44	8	4 50.6
26	10½		40	8	4 17.1	14	11½		44	13	7 7.6†
14	10		40	9	6 51.3	26	12		44	40	4 29.2
13	10½		40	12	4 0.7	13	10½		44	59	4 4.6
27	10		40	19	4 39.8	13	11		45	3	4 3.7
26	10½		40	25	4 16.1	26	10½		45	5	4 26.2
27	12	22	40	30	4 43.5	26	11½	22	45	10	4 26.6

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
27	9½	22 45 11	— 4 45.9 :	27	11	22 50 22	— 4 45.3
14	10½	45 12	7 0.9	27	12	50 32	4 34.1
14	10½	45 22	7 0.6	26	12	50 52	4 30.0
13	11½	45 24	4 2.9	26 27	9	50 54	4 33.2
26	11	45 26	4 25.3	14	10	50 59	7 2.2
27	9½	45 27	4 44.0	26	11½	51 0	4 25.1
27	10½	45 31	4 35.4	26	10	51 38	4 15.8
26	11	45 32	4 30.7	13	11½	51 47	4 4.4
27	11	45 48	4 38.8	13	11½	51 54	3 56.2
26	11	45 49	4 22.8	27	10	52 2	4 43.0 *
26	11	45 59	4 29.6	26	11½	52 4	4 12.7
13	11	46 50	3 55.7	26	11½	52 8	4 17.0
13	9	47 7	4 3.9	27	9½	52 15	4 39.9
26	10½	47 11	4 15.7	26	11	52 19	4 21.3
26	12	47 24	4 15.8	27	10½	52 24	4 38.1
13	11	47 26	4 4.6	13	10	52 30	4 7.9
26	12	47 32	4 19.1	27	10½	52 39	4 47.8
13	12	47 37	4 7.2	13	11½	52 40	4 3.5
26	11	47 44	4 18.4	26	11½	52 40	4 17.5 †
27	10	48 0	4 40.5	13	12	52 50	4 7.9
14	11½	48 16	6 59.2	27	9½	52 56	4 45.1
26	10	48 28	4 14.6	14	11	53 2	6 53.8
14	11	48 37	7 9.1	14	10½	53 26	6 53.4
26	11½	48 38	4 13.0	14	10	53 29	6 53.3
14	11	48 39	7 8.3	26	12	53 43	4 13.9
26	11½	48 41	4 17.0	26	9½	54 7	4 15.9
14	11	48 55	7 6.4	26	9½	54 9	4 13.5
26	11	49 26	4 23.0	13	10	54 12	3 47.4
24	11	49 30	7 11.5	26	10	54 12	4 11.2
26	11	49 30	4 13.6	13	11½	54 19	3 54.7
27	11	49 32	4 45.1	27	8	54 21	4 39.2
27	12	49 41	4 47.0	27	11	54 23	4 47.5
14	11	49 44	7 7.9	13	10	54 47	4 0.9
24	11½	50 5	7 1.7	27	9½	54 53	4 47.8
26	9	22 50 8	— 4 27.3	27	9	22 55 14	— 4 37.4

* (4).

† L. of double.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	°			h.	m.	s.	°
26	11	22	55	23	— 4 15.6	27	11	23	0	14	— 4 46.4
26	11		55	24	4 24.8	26	9		0	17	4 15.6
26 27	10		55	36	4 30.9	13	10½		0	18	4 0.5*
26	11½		55	40	4 27.9	26	11		0	31	4 14.0
27	11½		56	8	4 48.8	13	10		0	59	3 55.6
27	11		56	25	4 44.7	13	10	1	2		3 58.5*
27	9		56	29	4 35.7	26	12	1	24		4 15.5
27	11		56	42	4 46.3	26	11	1	34		4 31.2
26	11		56	44	4 29.8	27	11	2	9		4 47.6
13	11		56	49	4 7.9	26	10	2	10		4 26.9
27	11		56	49	4 40.4	26	10½	2	13		4 15.1
13	12		56	53	4 5.1	26	11½	2	26		4 16.3
26	9		56	55	4 18.1	13	11	2	42		4 3.6
26 27	10		57	7	4 33.7	13	11	2	43		4 0.4
26	10		57	16	4 24.4	13	11	2	45		4 8.2
27	11		57	32	4 50.5	26	9½	3	5		4 19.5
26	10		57	52	4 29.2	13	11	3	16		3 58.1
13	11		57	55	3 49.5	26	11½	3	27		4 17.7
27	12		58	2	4 34.6	26	11	3	33		4 17.6
13	10		58	7	3 53.6	26	10½	3	41		4 16.6
27	12		58	11	4 34.1	27	12	3	41		4 33.9
13	11		58	36	4 2.2	26	11	3	46		4 13.2
27	11½		58	44	4 37.5	27	11½	4	39		4 49.2
13	11		58	47	3 53.5	26	11	5	2		4 23.2
27	11		59	5	4 45.7	26	11½	5	15		4 19.4
26	11½		59	7	4 28.9	26	11	6	24		4 25.3
27	9½		59	13	4 32.6	13	10	6	25		4 5.9
27	11½		59	19	4 47.7	13	11	6	26		3 58.0
26	10		59	23	4 22.0	26	11	6	33		4 16.4
26	11½		59	41	4 14.6	27	12	6	34		7 7.0
13	10½		59	47	4 5.6	26	11	6	36		4 13.2
27	10½		59	51	4 39.5	27	12	6	43		7 8.0
27	10½	22	59	52	4 39.8	27	9½	6	53		4 43.5*
26	9½	23	0	7	4 19.4	27	10½	7	12		7 4.4†
26	11	23	0	7	— 4 13.6	27	10½	23	7	24	— 4 47.7

* (4).

† L. of double. Qu. Sept. 4-48.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	°			h.	m.	s.	°
26	10	23	7	43	— 4 18.5	27	10½	23	15	4	— 7 2.4
26	12		7	50	4 16.2	27	12		15	11	7 10.8
27	11		7	52	7 6.8*	26	10		15	15	4 22.1
26	10		7	54	4 31.4	27	12		15	15	7 6.1
27	12		7	57	7 6.6	26	11		15	30	4 26.8
13	10		8	19	4 1.2	26	11		15	35	4 23.8
13	9		8	29	3 57.5†	27	11		16	5	7 0.4
27	12		8	44	7 14.3	27	10		16	29	7 6.5
26	10		8	45	4 13.9	13	11		16	36	4 0.7
13	11		8	48	3 52.1	26	11½		17	5	4 27.3
26	11½		9	18	4 20.1	14	11		17	13	5 55.7
26	11		9	18	4 33.2	13	9½		17	17	3 56.1
27	10		9	27	6 56.8	27	11		17	33	7 11.8
26	10		9	45	4 30.9	26	12		17	48	4 18.0
26	10		10	20	4 11.7	13	10½		17	58	3 53.5
27	10		10	32	7 8.5	26	9½		18	2	4 17.9
27	12		10	55	7 5.4	27	10		18	7	7 0.9†
13	10½		11	0	4 0.4	27	9½		18	19	6 56.3
26	10		11	15	4 34.3	26	11		18	35	4 14.4
26	9½		11	25	4 26.8	27	12		18	39	6 58.1
26	11		11	42	4 13.8	27	11		19	3	7 0.3
13	8½		12	30	4 2.1	26	11		19	7	4 17.7
27	11½		12	35	6 58.4	13	10		19	24	4 8.0
13	26		12	41	4 10.7	26	12½		19	46	4 17.4
26	10		13	5	4 15.8	26	12½		19	49	4 19.6
27	11½		13	23	6 53.6	13	11½		20	7	3 51.1
27	11½		13	25	6 54.2	13	10½		20	30	3 51.3
27	11½		13	28	6 58.6	14	11½		20	35	6 7.1
26	10		13	36	4 13.4	14	11½		20	39	5 58.1
13	9½		13	41	3 53.0	26	11½		20	50	4 25.2
27	11		13	59	6 55.9	26	11		20	55	4 14.6
26	10		14	59	4 23.1†	26	11½		20	57	4 30.8
13	10		14	56	4 6.1	27	12		21	20	6 56.9
26	11		14	58	4 14.0	26	11		21	43	4 21.3
26	11½	23	15	2	— 4 16.1	13	10	23	22	8	— 4 1.7

* Qu. Sept. 4-48.

† (4).

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	°			h.	m.	s.	°
26	11	23	22	8	4 22.8	26	12½	23	28	34	4 17.0
13	10	22	31		4 3.4	27	11½	28	41		7 6.8
27	11	22	38		7 11.2	27	11	28	49		7 7.5
27	11	22	49		7 8.5	26	11½	28	55		4 18.4
27	11	23	19		7 1.2	27	10½	29	3		6 59.3
26	11½	23	21		4 27.7	26	11½	29	8		4 19.3
27	11	23	34		6 54.6	27	10½	29	22		7 6.9
26	11½	23	36		4 25.7	14	10½	29	24		5 56.0
26	11½	23	45		4 18.0	14	9½	29	46		6 7.4
13	11½	23	53		3 53.7	27	10	29	57		7 2.5
27	11	24	14		6 58.0	26	9½	30	7		4 16.1
27	11	24	14		6 54.2	14	10	30	13		6 6.5
26	11½	24	18		4 17.9	27	11	30	23		6 52.1
26	10	25	6		4 18.1	14	11½	30	40		6 1.5
26	11	25	8		4 19.4	26	10	30	41		4 10.6
27	11	25	9		7 3.7	14	11½	30	44		6 1.2
26	11	25	36		4 27.1	27	11½	31	7		6 53.8
27	11	25	50		7 5.0	26	11½	31	18		4 28.2
26	11½	25	52		4 27.8	26	11	31	19		4 27.5
14	12	26	17		6 4.2	26	9½	31	44		4 18.3
13	10	26	20		4 5.5	27	10½	31	46		7 10.4
27	11	26	27		7 6.3	26	11½	31	48		4 27.7
14	12	26	33		6 3.7	27	12	31	50		7 6.5
26	11	26	51		4 14.0	14	11½	31	51		6 9.6
26	10½	26	54		4 14.0	27	12	31	57		7 0.6
27	11	27	11		6 49.8	14	11½	32	19		6 7.6
27	11½	27	21		6 50.7	26	10	32	19		4 27.8
14	10	27	23		6 1.0	27	9	32	28		7 3.6†
13	11½	27	24		3 56.8	27	11½	32	35		7 4.1
14	10½	27	34		6 1.1	14	11½	32	42		6 11.1
26	11½	27	34		4 27.2	26	10	32	47		4 25.4
13	11½	27	35		4 1.6	27	11	32	53		7 10.6
26	9	27	43		4 16.0	26	11	33	5		4 23.1
14	11	27	51		6 7.4	27	10	33	12		7 2.5
27	9½	23	28	24	— 7 3.7*	26	11½	23	33	13	— 4 29.2

* (4) L. of double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
14	10½	23 33 21	— 5 55.4	14	10½	23 41 31	— 5 57.0
14	11½	33 22	5 52.6	26	11	41 54	4 17.3
26	10½	33 23	4 27.7	26	9	42 15	4 25.4
14	10	33 35	6 3.3	26	11½	42 20	4 26.8
27	11½	33 44	7 10.8	14	10½	42 25	5 54.9
14	10½	34 21	5 52.0	14	10½	42 41	6 10.3
26	9½	34 31	4 26.2	14	11	43 32	6 3.5
14	9½	34 41	6 11.7	14	9	43 46	5 57.4
26	10½	34 52	4 19.4	26	9½	43 51	4 20.6
26	9	34 54	4 23.0*	14	12	43 57	5 52.5
26	10	35 22	4 24.2	14	10½	44 1	5 56.3
14	12	35 39	5 53.8	14	11	44 6	5 56.3
14	12	35 40	5 51.5	26	11	45 13	4 18.4†
26	9½	35 58	4 24.1	26	11½	45 26	4 19.4
14	10	36 4	5 56.4	26	11	45 59	4 29.5
26	9½	36 12	4 25.9	14	9	46 30	5 58.8*
14	10	36 16	6 2.2	26	9	46 54	4 23.3*
26	11½	36 23	4 26.0	14	9½	47 33	6 4.7
14	10½	36 30	5 54.7	14	11	47 48	6 5.5
14	10	37 22	6 5.3	14	10½	47 53	6 12.0
14	11	37 23	6 9.1	14	11	48 18	6 6.7
14	10	37 48	6 5.4	26	11½	48 21	4 18.3
26	11½	38 19	4 14.4	26	11½	48 56	4 20.9*
26	9	38 26	4 14.6	14	11½	49 9	5 53.2
26	10	38 41	4 16.9	14	10	49 16	6 10.3
26	12	38 51	4 13.5	26	11½	49 35	4 18.5
14	11	39 2	5 54.6	14	11	49 36	6 7.8
14	11½	39 11	6 4.1	26	11½	50 10	4 29.8
14	10	39 51	5 59.9	26	10	50 12	4 26.6
26	12	39 58	4 15.2	14	10	50 19	6 11.4
24	10	40 0	5 57.3	14	11½	50 43	6 12.0
26	9½	40 28	4 19.0	14	11½	51 13	6 6.5
14	10½	40 30	5 54.4	14	9½	51 26	6 2.5
26	11½	40 33	4 14.6	14	11	52 4	5 56.5
26	11	23 41 5	— 4 28.4	26	11	23 52 4	— 4 20.9*

* (4).

† N. p. of double.

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
		h. m. s.					h. m. s.		
26	10	23 52 24	—	4 12.8	14	11	0 3 21	—	5 56.6
26	11	52 27		4 21.1	14	11	4 2		6 7.9
14	11½	52 40		5 54.0	27	10½	7 12		1 58.2
14	10½	52 40		5 52.9	27	12	7 42		2 8.7
26	11	53 20		4 17.9	27	10	10 23		2 10.4
26	11½	53 38		4 17.9	27	10	10 57		1 58.7
26	11	53 45		4 13.3	27	11	11 4		1 55.4
26	11½	53 48		4 18.6	27	11½	12 42		2 1.5
14	10½	53 53		5 51.5	27	11½	13 18		2 7.7
14	11	53 54		5 59.0	27	12	13 28		2 8.0
14	8½	54 19		6 3.1	27	12	14 28		2 7.3
11	11	54 58		5 53.9	27	12	14 53		2 8.3
26	9	55 1		4 13.5	27	12½	15 12		2 8.4
26	10	55 14		4 13.1	27	10	15 44		2 11.3
26	10	55 15		4 21.4	27	10½	15 47		2 8.4
26	10	55 22		4 19.1	27	12	18 37		1 54.8
14	11	55 44		5 58.6*	27	12	19 41		2 8.3
27	12	55 52		2 9.2	27	12½	19 58		2 8.1
27	12	55 57		2 9.1	27	10½	20 50		2 12.6
26	10	56 4		4 15.0	27	11	22 3		1 54.3
14	10½	56 16		6 1.9	27	12½	23 34		1 52.5
14	10½	56 25		6 5.4	27	10½	24 31		1 55.7
14	10½	56 27		6 1.0	27	12	24 45		1 54.4
26	10	57 4		4 15.2	27	11	25 44		2 9.2
26	10	57 5		4 27.4	27	12	26 45		1 57.7
27	11½	57 48		2 9.2	27	12	27 3		2 10.5
14	11	58 30		6 1.2	27	11½	28 31		1 57.1
14	11½	58 43		6 1.7	27	11½	28 32		1 59.2
14	11½	58 44		5 55.6	27	11½	28 40		1 57.3
14	9½	58 52		5 57.5	27	11	29 54		2 8.8
14	11½	58 52		5 52.8	27	11½	30 50		2 6.1
26	9	23 59 14		4 27.2	27	12	31 6		2 8.3
14	9	0 0 29		5 58.0*	27	11½	34 7		1 53.9
14	11	1 34		5 52.8	27	11½	0 34 16	—	1 56.0
27	12	0 2 29	—	2 10.8					

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

572 STARS NEAR THE ECLIPTIC,

OBSERVED IN OCTOBER, 1854, AT MARKREE.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.				h.	m.	s.	
26	12	21	4	1	—19 0.8	24	10½	21	26	30	—16 58.1
26	10		4	10	19 0.3*	24	10		26	41	17 4.0
26	12		4	29	19 0.2	26	10		26	46	10 32.2
26	11½		5	28	19 3.3	24	9		26	55	16 55.7
26	11½		5	29	18 59.9	26	12		27	24	10 33.2
26	11½		6	49	18 53.0	26	10		27	28	10 29.2
26	11		7	23	19 3.9	26	11½		27	42	18 53.1
26	11		8	1	19 8.1	24	11½		27	49	16 53.3
26	11½		9	17	19 0.4*	24	11½		28	4	17 6.3
26	11		9	28	19 9.3	24	11		28	41	17 0.4
25	11		9	38	18 59.4*	24	10½		28	51	17 3.4†
26	11		9	52	19 0.5	24	10½		29	9	16 58.4
26	10½		11	42	19 8.1	24	9½		29	13	16 58.5
26	10½		12	4	19 13.3	26	10½		29	24	10 49.2
26	10½		13	8	19 2.5*	26	8½		29	37	10 40.4
26	11½		13	50	18 53.7	26	10		29	39	10 32.1
26	11		14	27	19 3.5	26	11½		30	31	10 38.0
26	12		14	50	18 54.9	24	10		31	12	17 13.2
26	9½		15	56	18 55.5	26	10½		31	15	10 37.0
26	12		16	18	19 9.6	24	11		31	31	17 0.0
26	12		16	36	19 10.6	26	10½		31	31	10 46.1
26	9½		17	6	18 50.0	26	9½		32	53	10 53.0
26	11½		17	40	19 11.2	24	11½		33	31	17 2.7
26	9½		19	24	19 0.8*	26	10		33	47	10 44.7
26	11		23	59	18 53.4	26	10½		33	53	10 47.5
26	8½		24	50	19 13.6	24	10		34	1	16 59.9
26	11		25	2	19 7.9	26	11		34	1	10 45.5
24	10		25	54	17 5.9	26	11		34	10	10 46.0
26	11		26	10	10 32.3	26	9		34	31	10 35.6
26	10½	21	26	22	—10 32.8	24	10½	21	35	34	—17 2.6

* (4).

† p. of double.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$
24	11 $\frac{1}{2}$	21	55	48	17 7.5	24	11 $\frac{1}{2}$	21	53	12	16 55.1
24	9 $\frac{1}{2}$		36	20	17 4.5	24	9		54	16	16 54.4
24	11		37	7	17 10.1	24	10		54	34	17 9.2
24	10 $\frac{1}{2}$		39	14	17 6.5	24	11 $\frac{1}{2}$		54	56	17 8.4
24	10 $\frac{1}{2}$		39	17	17 8.6	24	9 $\frac{1}{2}$		55	10	16 53.7
24	10		39	30	17 6.2	24	10		55	23	17 10.8
24	11		40	36	16 56.5	24	12		56	43	17 9.0
24	11		40	57	17 5.6	24	11		57	3	16 55.6
24	10 $\frac{1}{2}$		41	53	17 4.3	24	11		57	9	16 49.7
24	10		42	7	17 10.4	24	11		58	3	17 3.8
24	11		43	5	17 7.6	24	10		58	37	16 58.2
24	11 $\frac{1}{2}$		43	16	16 54.9	24	10 $\frac{1}{2}$		59	28	16 58.4
24	11 $\frac{1}{2}$		43	30	17 6.2	24	11 $\frac{1}{2}$		59	31	17 8.5
24	10 $\frac{1}{2}$		44	15	16 51.6	24	11 $\frac{1}{2}$	21	59	40	17 6.1
24	9 $\frac{1}{2}$		44	21	16 57.4	24	10 $\frac{1}{2}$	22	0	28	17 0.4
24	11		44	25	16 54.6	24	11		0	40	16 54.5
24	10		45	14	16 56.6	24	11 $\frac{1}{2}$		0	50	16 58.0
24	10		45	28	17 13.2	24	11		0	59	16 55.3
24	11 $\frac{1}{2}$		45	52	16 52.2	24	11		1	58	16 58.1
24	11		46	42	17 8.4	24	11 $\frac{1}{2}$		2	6	16 53.5
24	10 $\frac{1}{2}$		47	1	17 1.4	24	11 $\frac{1}{2}$		2	7	16 58.0
24	11 $\frac{1}{2}$		47	13	17 3.0*	24	11 $\frac{1}{2}$		2	23	17 2.5
24	11 $\frac{1}{2}$		47	18	17 3.7	24	11		2	36	16 55.5
24	11		47	51	17 8.0	24	11		2	52	16 53.1
24	10:		48	33	16 53.2	24	11 $\frac{1}{2}$		3	5	16 52.0
24	10 $\frac{1}{2}$		48	59	16 58.7	24	12		4	47	16 54.5
24	11		49	32	16 54.3	24	12		5	28	17 8.7
24	11 $\frac{1}{2}$		50	37	17 7.3	24	9		6	1	16 55.5
24	11 $\frac{1}{2}$		51	0	16 59.4	11	10 $\frac{1}{2}$		26	52	12 8.3
24	10 $\frac{1}{2}$		51	12	17 5.1	11	11		27	9	12 4.9
24	9 $\frac{1}{2}$		51	14	16 59.7*	11	10 $\frac{1}{2}$		29	39	11 59.4
24	9 $\frac{1}{2}$		51	27	17 2.4	11	11		29	39	12 11.7
24	9 $\frac{1}{2}$		52	1	17 6.5	11	11 $\frac{1}{2}$		31	50	12 8.5
24	10		53	5	16 55.7	11	11 $\frac{1}{2}$		32	9	11 55.2
24	11	21	53	11	16 58.1	11	11	22	33	1	12 8.8

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$ ' "			h. m. s.	$^{\circ}$ ' "
II	11 $\frac{1}{2}$	22 33 41	—12 7.3	24	10 $\frac{1}{2}$	22 52 45	—10 48.4
II	II	35 29	12 9.0	24	11 $\frac{1}{2}$	54 6	10 47.5
II	II	35 57	12 9.8	24	II	54 7	10 36.7
II	12	36 36	12 9.6	24	12	54 20	10 45.2†
II	II	37 31	12 4.1	24	II	54 40	10 34.8
II	II	37 38	II 57.2	24	10 $\frac{1}{2}$	55 39	10 51.0
II	11 $\frac{1}{2}$	37 48	12 4.3	26	II	55 45	9 1.0
II	II	37 58	12 6.1	24	10	56 7	10 50.4
II	10 $\frac{1}{2}$	38 52	12 0.2	24	10 $\frac{1}{2}$	56 18	10 39.9
II	II	39 10	II 55.9	II	II	56 30	II 53.4
II	10 $\frac{1}{2}$	39 27	12 5.6	II	II	56 41	12 0.5†
II	10 $\frac{1}{2}$	39 30	12 9.7*	26	10	56 50	8 55.0
II	10 $\frac{1}{2}$	40 16	12 3.0	26	10 $\frac{1}{2}$	56 56	8 58.5
II	II	40 30	II 59.4	II	11 $\frac{1}{2}$	57 4	12 0.1†
II	10 $\frac{1}{2}$	43 10	12 9.0	II	10 $\frac{1}{2}$	57 17	12 4.8
II	10	43 17	12 8.7	24	11 $\frac{1}{2}$	57 20	10 33.9
II	II	43 24	12 8.4	26	9 $\frac{1}{2}$	57 47	8 54.3
II	10	43 30	II 55.5	II	11 $\frac{1}{2}$	57 49	12 0.1
II	II	45 21	12 0.8†	24	10 $\frac{1}{2}$	58 1	10 50.9
II	II	45 40	II 54.7	24	II	58 23	10 50.2§
II	11 $\frac{1}{2}$	45 53	II 57.7	26	II	59 6	9 10.1
II	II	46 3	12 6.9	26	10	59 27	9 7.1
II	11 $\frac{1}{2}$	47 34	II 53.8	II	10	59 29	II 51.7
II	10 $\frac{1}{2}$	47 58	II 59.6†	26	II	59 30	8 57.3
II	II	48 4	II 59.3	II	II	59 33	II 59.0
24	9 $\frac{1}{2}$	48 28	10 41.9†	24	10 $\frac{1}{2}$	59 36	10 32.5
II	10	48 47	12 7.3	II	II	22 59 37	II 52.4
II	II	48 52	12 4.5	24	II	23 0 2	10 38.1
II	10 $\frac{1}{2}$	49 21	12 0.2	26	10 $\frac{1}{2}$	0 20	9 4.9†
II	10	49 26	12 2.9	24	10 $\frac{1}{2}$	0 30	10 41.6
II	10	49 40	12 2.2	II	10	0 31	II 55.2
II	10 $\frac{1}{2}$	50 59	12 11.0:	24	10 $\frac{1}{2}$	0 31	10 36.8
24	10	51 3	10 49.5	II	II	0 35	II 55.8
24	12	51 58	10 34.3	24	II	0 46	10 44.8†
24	11 $\frac{1}{2}$	22 52 9	—10 42.0	II	II	23 0 53	—12 2.9

* L. of double.

† (4).

‡ M. C.

§ A small companion.

Days Obs.	?	α.	δ.	Days Obs.	Mag.	α.	δ.
26	9	23 0 54	9 9 6	26	12	23 12 41	-9 8.9
11	11	0 56	11 55.5	26	12½	13 1	9 7.4
24	11½	0 58	11 36.7	24	8	14 3	10 35.0*
11	11	1 28	12 3.3	26	10	14 19	9 3.7
24	11	1 32	10 45.6	26	12	14 20	8 54.7
24	10½	1 37	10 49.7	26	12	15 34	8 56.6
26	11	1 39	8 55.1	26	12	15 42	8 54.3
11	10	1 41	11 59.5	24	10	15 51	10 43.0†
26	12	2 32	8 55.7	26	12½	16 2	8 56.4
11	11	2 51	12 9.7	26	10½	16 38	8 51.8
24	12	3 22	10 49.4	11	10½	16 59	7 12.4
24	11	3 28	10 51.0	24	10	17 8	10 46.4
24	11½	3 40	10 51.2	26	10	17 11	8 59.5
26	11	3 45	9 5.0	26	11	17 33	9 5.3
11	10½	3 56	11 54.9	24	10	17 35	10 52.8
11	11	3 57	11 59.2	11	10½	17 47	7 26.2
11	11½	4 1	11 58.0	26	10½	18 6	9 5.8
24	10	4 40	10 38.8	26	10½	18 49	9 10.0
26	9½	5 9	8 58.1	26	11	19 7	8 58.6
26	11	5 13	9 1.1	26	11	19 29	9 5.9
24	9½	5 17	10 35.6*	11	11	19 42	7 28.1
26	9½	5 24	8 59.1	26	12	19 42	8 55.2
26	10	5 30	8 54.3	26	10	19 47	9 6.0
24	11½	5 41	10 33.2	11	10½	19 48	7 29.1
24	11½	6 15	10 41.7	26	11½	19 59	8 58.4
26	8½	6 20	9 12.0	26	9½	20 14	9 0.7
26	9½	6 48	8 53.7	11	10	21 13	7 27.6
26	9½	6 59	8 54.8	26	12	21 14	9 8.8
26	12	8 31	8 57.2	26	10½	21 15	9 7.9
26	10	10 30	9 12.0	26	12	21 41	9 1.4
26	11	11 7	9 6.7	11	11	22 13	7 27.6
26	10½	11 10	9 5.1	26	12	22 15	9 10.9
26	11½	11 20	9 0.0	11	11	22 17	7 26.3
26	9½	11 31	8 59.5	26	11	22 51	8 54.5
26	10	23 11 37	-9 6.9†	11	10½	23 23 0	-7 26.8

* M. C.

† L. of Double.

‡ (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
26	10	^{h. m. s.} 23 23 10	— 8 53.8	26	12½	^{h. m. s.} 23 31 19	— 8 59.4
26	11	24 4	9 6.1	26	12½	31 26	1 6.5
11	10	24 5	7 14.1	24	10	31 35	4 0.5
26	11	24 6	9 10.4	24	9	31 43	3 58.3
26	12	24 6	0 57.8	11	10½	31 44	7 21.1
26	9½	24 16	9 9.8	26	10½	31 48	0 59.7
11	9½	24 50	7 28.1	26	11	31 49	9 6.1
26	10	25 48	9 11.0	26	10½	31 49	0 58.4
26	11	26 10	9 9.0	26	10½	31 50	9 0.9*
11	9½	26 43	7 18.5	11	11½	32 3	7 23.3*
24	11½	27 2	3 51.6	24	11	32 8	3 58.2*
26	10	27 15	9 2.5*	24	11	32 9	4 2.6
26	9½	27 17	9 12.1	11	11	32 10	7 22.4
11	12	27 24	7 21.6	26	11½	32 15	9 6.7
11	12	27 49	7 14.2	26	11	32 19	9 10.3
26	11	27 52	0 56.9	26	10½	32 47	0 50.1
26	10½	27 57	8 59.2	26	11	32 54	0 59.1
26	12	28 6	0 57.8	26	11	33 8	8 53.5
24	12	28 18	4 1.8*	24	10	33 35	3 58.4
26	12	28 27	0 57.1	24	10	33 37	3 56.8
24	11	28 54	4 1.1*	11	11	33 48	7 26.8
11	11	29 13	7 17.2	26	8	34 7	9 11.2
24	11	29 14	4 5.1	26	10½	34 22	8 57.3
26	12	29 20	9 11.3	26	11	34 22	8 55.4
26	12½	29 20	1 9.8	26	11	34 23	9 6.6
26	10	29 53	8 54.9	26	10	34 37	8 55.9
26	9½	29 54	8 59.7	26	10½	34 40	0 53.8
26	11	29 58	0 58.2	24	10½	34 43	3 58.6
24	11	29 59	4 9.0	24	9½	34 55	3 58.3
11	12	30 3	7 30.4	26	10	35 2	1 3.3
26	11	30 33	0 56.4	11	11½	35 10	7 15.0
11	11	30 40	7 10.4	26	11	35 10	1 5.9
26	11	30 51	8 57.5	11	11½	35 15	7 10.1
24	10	30 57	4 2.7	11	11	35 31	3 54.9
24	10	23 31 19	— 4 0.3	26	10½	23 35 40	— 0 54.1

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h .	m .	s .	$^{\circ}$			h .	m .	s .	$^{\circ}$
11	10	23	36	17	— 7 20.3*	24	12	23	45	22	— 4 3.8
24	11½		36	51	4 4.7	24	11		45	27	4 8.1
26	12		36	56	1 0.3	24	11		45	32	4 7.8
24	10½		38	6	4 6.2	26	10½		45	32	0 49.2
24	11		38	22	4 3.5	26	11		46	1	0 54.0
24	11		38	23	4 4.9	26	11		46	7	1 8.9
24	9½		38	23	4 8.1	24	12		46	23	3 52.6
26	10		38	33	0 57.1	24	11		46	58	1 7.3
26	11½		38	37	0 54.0	26	10½		47	4	0 57.0
26	11½		38	40	1 10.1	26	8		47	10	1 6.9
24	10½		38	55	3 58.3	26	10		47	54	1 0.7
26	11½		39	5	0 52.8	26	11½		48	12	0 58.5
26	11		39	12	0 53.8	24	9½		48	14	3 57.1
24	10		39	17	4 5.2	26	10		48	16	1 7.9
26	10		39	42	1 6.2	26	11½		48	17	0 58.3
26	11½		39	51	1 7.3	26	11		48	35	0 57.8
26	9½		40	16	0 51.7	24	10½		48	39	4 3.5
24	12½		40	28	4 6.2	24	9½		49	5	4 3.2
26	11½		40	52	0 55.8	24	12		49	26	4 1.4
24	10½		41	3	4 3.2	24	10		49	31	3 58.5
26	10½		41	4	1 3.2	26	11		49	47	0 55.9
26	10		41	33	1 5.8	26	10		50	2	1 5.2
26	9		41	42	0 56.3	26	11		50	10	0 56.9
24	11		42	10	4 4.5	24	10½		50	56	4 9.5
24	12		42	22	4 4.2	26	11		50	56	1 0.0
24	10		42	39	3 59.0	24	10½		51	13	4 5.1
24	11		43	0	3 58.4*	26	11		51	14	1 0.6
26	12		43	13	1 9.6	24	9½		51	35	4 3.6
26	11		43	27	1 3.7*	24	10½		52	58	3 57.9*
26	11½		43	27	1 6.2	24	11		53	50	4 4.4
24	11		43	55	4 8.0	26	10½		54	16	0 57.6
26	11		44	25	0 53.0	26	12		55	34	0 58.4†
26	10½		44	39	0 54.5	26	10		55	34	0 53.0
26	11½		44	58	1 9.1	26	9		55	37	0 59.8
26	9½	23	45	18	— 1 8.2	24	10½	23	55	38	— 3 52.4

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
26	11	23 55 39	— 1 7.2	24	11½	0 3 8	3 52.7
24	11½	55 49	4 5.5	26	11	3 13	0 56.7
24	11	56 1	4 5.5	26	12	3 13	0 54.4
24	11½	56 1	3 52.9	26	10	3 22	0 57.8
26	10½	56 25	1 7.8	24	11	4 19	4 5.3
26	11	56 53	1 11.0	24	10½	4 21	4 2.0
26	11	56 59	1 4.2	24	11	4 29	4 9.6
24	11	57 10	3 49.7	26	11½	4 41	1 6.9
26	10½	57 13	0 50.1	26	11½	5 2	1 8.4
26	11	57 35	0 53.3	26	10	5 48	0 57.8
26	12	58 2	1 10.2	26	10½	5 59	1 4.7
24	10	58 7	4 7.1	26	10½	6 5	1 6.1
26	12	58 10	1 10.0	26	11	10 9	0 56.1
24	12	58 59	4 4.1	26	11	10 18	0 50.7
24	11½	59 0	4 2.4	26	10½	10 19	1 4.0
24	11½	59 1	4 5.4	26	11½	10 56	1 9.4
26	11	59 3	0 50.5	26	11½	11 37	1 5.0
26	11	59 7	1 4.6	26	11½	11 46	1 5.5
26	11	59 17	0 53.7	26	9½	11 48	0 55.7†
24	11½	23 59 18	3 57.3	26	12	12 57	1 3.7
26	11	0 0 12	0 56.4	26	8	13 24	1 5.1
26	11	0 13	1 0.7	26	9½	13 47	1 2.9
24	11	0 16	3 51.6	26	11	13 53	0 59.0
26	11	0 19	1 8.8	26	10½	13 58	0 59.8
24	9½	0 31	4 9.0	26	11	15 35	0 57.6
24	11½	1 11	4 7.2	26	11	15 37	0 56.0
26	9½	1 18	1 5.6	26	8½	15 41	1 6.4
24	12	1 19	4 5.9	26	8½	16 13	1 5.6
26	10	1 45	1 0.1	26	10½	19 3	1 8.5
24	11	1 57	3 56.5	26	10½	19 35	1 6.0
24	11½	2 0	3 54.3	26	10½	19 50	1 8.6
24	11	2 7	3 51.5	26	10	20 23	0 52.5
26	11	2 15	0 52.6*	26	12	20 24	1 1.0
24	11½	2 17	3 59.2	26	10½	20 29	0 50.8
24	11	0 2 28	— 3 54.1	26	9½	0 21 26	— 0 52.3

* A 12th N. J.

† L. of double.

Days Obs.	Mag.	α .		δ .	Days Obs.	Mag.	α .		δ .						
		^{h.}	^{m.}	^{s.}			^{h.}	^{m.}	^{s.}						
26	9½	0	21	57	—	0	56.6	26	10	1	3	7	+	6	33.7
26	11½	22	35	1	9.6	26	10½	3	26	6	35.4				
26	10½	22	48	0	54.6	26	10	3	48	6	47.3				
26	11	23	5	0	58.7	26	10	4	4	6	43.7				
26	9	23	13	0	58.8	26	11	8	24	6	45.8				
26	10½	23	38	1	5.5	26	11	8	47	6	47.3				
26	12	23	56	0	59.9	26	11	8	58	6	44.3				
26	11	26	53	0	58.0	26	10½	9	26	6	46.4				
26	11	27	23	1	2.0	26	10	10	18	6	35.8				
26	12	27	37	1	6.9	26	10	10	20	6	32.4				
26	10	27	54	1	14.2	26	10	11	3	6	38.4*				
26	10½	28	50	0	53.1	26	11½	11	46	6	37.8				
26	10½	29	5	0	56.6	26	11½	12	57	6	28.7				
26	11½	29	22	0	55.2	26	8	13	15	6	49.0				
26	11½	29	33	1	6.8	26	10	14	9	6	40.5				
26	12	30	39	0	54.6	26	11	14	14	6	41.0				
26	10½	30	43	0	59.6	26	10	14	42	6	44.1				
26	11	30	52	0	59.7	26	10	15	0	6	41.3				
26	11	31	39	1	3.1	26	10	15	4	6	46.5				
26	9½	31	54	0	59.1	26	11	15	38	6	33.7				
26	10	32	10	0	55.8	26	12	15	43	6	32.4				
26	10½	32	26	1	5.0	26	9½	16	11	6	36.7				
26	11	32	42	1	5.9	26	9½	16	40	6	34.8				
26	11	33	9	1	3.9	26	10½	17	0	6	40.3				
26	9½	33	9	0	53.2	26	9	17	31	6	36.9				
26	9½	34	48	—	0 55.2	26	9½	18	52	6	39.3*				
26	12	55	47	+	6 32.9	26	10½	19	42	6	36.9*				
26	11	55	52	6	30.3	26	11	20	10	6	36.2*				
26	10	55	58	6	34.7	26	11	20	21	6	32.2				
26	10	56	44	6	40.3	26	10	21	22	6	39.7†				
26	12	57	32	6	32.4	26	11½	22	49	6	29.8				
26	11	58	8	6	34.9	26	11½	23	30	6	29.6				
26	9½	0	58	43	6	50.3	26	11	23	55	6	49.8			
26	9	1	0	34	6	33.6	26	11	24	12	6	44.6			
26	10	1	2	3	+	6 47.0	26	11	1	24	36	+	6	32.5	

* (4).

† A 10th N.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
26	11	1 25 27	+ 6 39.6	26	11	1 31 20	+ 6 46.8
26	11	25 41	6 44.9	26	11½	31 30	6 43.7
26	10½	26 6	6 34.6	26	11	31 51	6 43.5
26	10½	26 29	6 43.5	26	11	32 35	6 40.7
26	10	26 52	6 33.8*	26	11½	32 37	6 39.2
26	10	28 9	6 49.9	26	11½	32 46	6 41.5
26	12	28 24	6 45.3	26	11½	33 6	6 34.4
26	10½	28 59	6 39.9	26	8	34 34	6 39.2†
26	9	29 16	6 44.4	26	11	34 38	6 42.0
26	9	30 41	6 42.7	26	11½	34 44	6 33.9
26	9	1 30 47	+ 6 46.6	26	12	1 34 57	+ 6 34.0

* L. of double.

† (4-)

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850.

OF

1760 STARS NEAR THE ECLIPTIC,

OBSERVED IN NOVEMBER, 1854, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
24	10	21 26 57	- 9 30.6	24	11½	21 31 16	- 9 26.9
24	11	27 12	9 24.1	24	11	31 34	9 24.0
24	11	27 30	9 18.2	24	10½	31 48	9 27.3
24	11½	27 42	9 29.2	24	10	31 56	9 22.0*
23	10	27 54	10 52.9*	24	11½	32 27	9 26.2 :
23	11	28 12	10 53.1	23	10½	33 1	10 40.4
24	9	28 35	9 24.4:	24	12	33 28	9 18.5
24	9½	30 0	9 15.7	24	10	33 38	9 18.3
23	11	30 49	10 40.7	24	11½	33 48	9 15.8
23	11	21 31 12	-10 34.5	23	10	21 33 55	-10 46.8†

* L. of double.

Qu. Dup., Oct. 26th, 1854.

Days Obs.	Mag.	α .			δ .	Days Obs.	Mag.	α .			δ .
		$^{\text{h}}$	$^{\text{m}}$	$^{\text{s}}$	$^{\circ}$			$^{\text{h}}$	$^{\text{m}}$	$^{\text{s}}$	$^{\circ}$
24	10	21	34	26	— 9 18.9	24	11	21	45	37	— 9 15.2
24	11½		34	55	9 28.8	23	11		45	40	10 42.6
24	11		34	59	9 13.3	24	11		46	26	9 10.5
23	12		35	21	10 40.2	24	10½		46	48	9 31.2
23	9½		35	28	10 33.6	24	9½		47	39	9 26.3
23	11		36	48	10 53.1	24	11½		48	2	9 23.8
24	10½		36	57	9 12.8	24	12		48	10	9 23.6
24	11		37	12	9 28.5	24	11½		48	20	9 26.7
24	11		37	14	9 32.4	23	11½		48	21	10 50.1
23	11½		37	16	10 31.8	24	11		48	24	9 20.7
23	11½		37	41	10 43.1	23	11		49	34	10 49.3
24	10½		37	48	9 31.1	24	10½		50	5	9 14.5
24	10		38	19	9 28.1	23	11½		50	35	10 46.0
23	11½		38	31	10 36.9	24	11½		50	35	9 20.8
24	11½		38	43	9 23.8	23	12		50	48	10 47.4
23	11½		38	47	10 46.6	23	10½		51	55	10 49.6
23	10½		38	51	10 48.0	24	10		51	56	9 23.3†
24	10		39	8	9 22.9	24	11		51	57	9 33.9
23	9½		39	45	10 34.0	23	11		52	50	10 47.9‡
24	10½		40	23	9 15.3	23	11½		52	57	10 43.4
23	11½		40	42	10 31.8	24	10		53	25	9 30.0
23	11½		40	46	10 32.8	24	11		53	39	9 23.9
24	10		41	5	9 20.6†	23	11		53	40	10 37.7
24	10		41	6	9 20.0†	24	10		53	45	9 25.2§
23	11		41	18	10 45.2	23	10		53	56	10 39.5
23	11½		41	21	10 50.4	24	11		54	22	9 16.4
23	11½		41	36	10 35.0	24	9½		54	32	9 23.3
24	12		42	46	9 16.3	24	11		55	19	9 18.0
24	11½		43	6	9 17.0	24	10½		56	14	9 21.1
24	11½		43	9	9 12.7	24	11		57	6	9 26.4
23	10		43	16	10 43.0†	24	11		57	9	9 27.2
24	11½		43	46	9 29.9	24	9		57	56	9 12.9
23	11		43	54	10 33.7	24	10		58	5	9 28.1
24	10		44	8	9 23.9	24	9½		58	32	9 27.4
24	9	21	45	12	— 9 10.2	24	11½	21	58	48	— 9 26.3

• Nebulous.

† (4).

‡ Double.

§ A small companion.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
24	10½	21 59 34	9 28.2	24	11½	23 3 12	5 1.4 *
24	12	59 40	9 28.2	24	10½	3 35	5 0.3
24	12	21 59 59	9 30.8	24	10½	4 2	4 59.1
24	10½	22 1 0	9 15.9	24	10½	4 37	4 58.8
24	10	2 51	9 24.8	24	11	4 45	4 54.4
24	12	3 18	9 24.6	24	9½	5 22	5 5.1
24	11	4 48	9 26.9	24	11½	6 29	5 8.3
24	11	5 1	9 28.7	24	10	6 53	5 4.3 *
24	11	5 26	9 20.5 *	24	10	7 22	4 57.8
24	11	45 38	5 4.3	24	11½	7 48	4 55.3
24	12½	47 8	5 6.7	24	11½	8 57	5 1.1 *
24	12½	47 10	5 7.7	24	11½	8 57	4 56.1
24	12	47 24	5 7.9	24	11½	9 6	4 54.2
24	10	48 4	5 2.1	24	11	9 32	4 58.1
24	10½	49 11	5 7.7	24	9½	10 15	4 53.5
24	11	52 44	4 57.3	24	10	11 3	5 1.4 *
24	12½	52 45	5 0.1	24	11	12 28	4 54.5
24	10½	53 0	4 56.4	24	11½	12 36	4 54.4
24	10½	53 21	5 9.0	24	11½	12 45	4 56.6
24	9½	53 53	4 51.8	24	10	13 41	5 9.2
24	11½	53 57	4 59.9	24	10	13 52	5 8.5
24	11	54 9	4 51.8	24	11	14 55	4 58.5
24	9	54 47	5 1.6	24	11	15 9	4 59.2
24	9½	55 40	5 5.2	24	12	15 21	5 0.5
24	11½	56 47	4 53.6	24	12	15 38	5 0.3
24	9½	56 56	4 54.8	24	10	16 16	5 6.8
24	11½	57 10	4 57.7	24	10½	16 50	5 5.6
24	11½	58 24	5 7.7	24	11	17 19	5 1.2
24	11	59 34	5 4.3	24	11½	17 25	4 54.8
24	11	22 59 44	5 3.6	24	10½	17 45	5 3.5
24	10	23 0 40	5 9.8	24	11	18 55	5 9.6
24	9	0 44	4 53.7	24	12½	20 9	5 7.3
24	10	1 32	4 56.6	24	11½	20 34	5 9.8
24	12	1 37	4 58.9	24	8½	20 55	5 6.6
24	10½	23 3 0	4 55.8	24	10	23 21 17	5 6.4

APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	°			h.	m.	s.	°
24	11½	23	22	20	— 4 59.1	24	11½	23	41	55	— 5 10.0
24	10½		22	31	5 1.4	24	10		43	24	5 8.8
24	11½		22	32	4 58.8	24	12		43	33	5 7.7
24	9		22	46	4 55.4	24	11		43	58	4 55.8
24	9		23	13	4 56.5	24	10		44	45	5 3.2
24	12		25	39	5 2.2	24	11½		45	40	5 5.4
24	11½		27	17	5 6.6	24	9		46	22	5 6.8
24	11		27	38	5 5.4	24	11½		46	31	5 7.7
24	10½		27	38	5 7.6	24	11		47	16	4 58.2
24	9		28	8	5 0.5	24	10		48	15	5 4.9
24	12		28	24	5 2.2	24	10		48	41	5 5.5
24	11½		28	43	4 54.4	24	11		48	53	5 0.2
24	11		29	33	5 7 0	24	10½		48	58	5 7.9
24	12		30	45	5 10.9	24	11		49	16	— 5 5.3
24	12½		30	49	5 6.1	15	11½		56	18	+ 5 8.0
24	9		32	21	4 58.2	15	10		56	19	5 13.1
24	9		32	23	4 52.6	15	11½		57	0	5 12.4
24	10		33	29	4 57.9	15	11		57	7	5 15.1
24	11½		33	53	5 7.9	15	11		57	14	5 18.3*
24	11½		34	12	5 9.1	15	10½		57	41	5 21.2*
24	11		35	10	5 4.2	15	11		57	54	5 26.8
24	12		35	40	4 57.5	23	10		58	14	5 31.6
24	10½		35	50	4 56.4	23	10		58	28	5 34.0
24	11		35	56	4 57.8	23	11		58	33	5 31.2
24	9		36	24	5 0.9	15	11		58	51	5 26.2
24	10		36	47	5 7.8	23	9		59	8	5 49.0
24	11½		38	2	4 54.3	15	11		59	29	5 10.5
24	11		38	26	4 59.8	23	11		59	57	5 40.5
24	11½		38	32	4 58.8	15	11		23 59	59	5 25.4
24	10		38	38	4 55.5	23	10		0	0	7 5 40.7
24	10		39	13	4 52.7	15	11		0	25	5 16.4
24	9		39	58	5 9.6	15	10½		0	45	5 26.1
24	11½		40	7	4 57.3	15	11		0	46	5 19.2
24	11½		41	1	5 10.1	15	11½		0	49	5 26.1
24	11		23 41	50	— 5 7.7	23	9½		0	0	49 + 5 34.7

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$ $'$ $''$			h. m. s.	$^{\circ}$ $'$ $''$
15	11	0 1 2	+ 5 27.5	23	11 $\frac{1}{2}$	0 10 54	+ 5 41.9
23	10 $\frac{1}{2}$	1 16	5 35.3	15	12	11 13	5 17.0
23	9 $\frac{1}{2}$	1 16	5 37.5	23	11	11 23	5 40.8
23	10 $\frac{1}{2}$	1 47	5 43.7	23	11	11 28	5 39.5
15	12	1 53	5 12.3	23	11	11 30	5 40.5
15	10 $\frac{1}{2}$	2 47	5 17.7*	15	12	11 48	5 24.8
15	11	2 59	5 12.4	23	11	12 1	5 43.1
15	11 $\frac{1}{2}$	3 9	5 13.8	15	11 $\frac{1}{2}$	12 2	5 10.8
15	10	3 33	5 20.9	15	9 $\frac{1}{2}$	13 10	5 7.9
23	9	4 14	5 44.6	23	10	13 16	5 36.0†
23	10 $\frac{1}{2}$	4 19	5 41.3	15	11 $\frac{1}{2}$	13 21	5 10.1
15	12	4 33	5 17.4	23	10	13 45	5 43.6
23	11	4 34	5 36.3	15	10 $\frac{1}{2}$	14 5	5 21.9
23	10 $\frac{1}{2}$	4 39	5 33.7	15	12	14 13	5 25.1
15	11	5 43	5 15.3	15	11	14 17	5 20.9
23	9	5 46	5 37.5	23	10	14 23	5 31.8
23	9	5 55	5 50.1	23	10 $\frac{1}{2}$	14 24	5 40.2
15	11	6 31	5 14.1	15	9 $\frac{1}{2}$	14 54	5 19.8
15	10	6 48	5 20.6	15	10 $\frac{1}{2}$	15 8	5 10.2
23	12	7 23	5 45.9	23	10	15 14	5 31.6
15	12 $\frac{1}{2}$	7 26	5 25.2	15	11 $\frac{1}{2}$	15 16	5 11.7
23	11 $\frac{1}{2}$	7 26	5 33.2	23	9	15 29	5 43.4
15	10 $\frac{1}{2}$	7 31	5 24.8	23	11 $\frac{1}{2}$	15 48	5 44.3
23	11 $\frac{1}{2}$	7 34	5 34.7	23	11 $\frac{1}{2}$	15 59	5 48.6
15 23	10	8 16	5 26.1	15	11 $\frac{1}{2}$	16 15	5 11.2
23	11	8 22	5 32.5	15	12	16 19	5 6.8
15	11 $\frac{1}{2}$	8 30	5 14.0	23	11	16 46	5 30.2
15	11	8 34	5 15.9	23	10	17 7	5 33.6
15	11 $\frac{1}{2}$	9 1	5 14.6	15	10 $\frac{1}{2}$	17 14	5 24.8
23	11	9 28	5 30.7	15	12	17 27	5 25.9
15	10	9 36	5 25.3:	15	9 $\frac{1}{2}$	17 29	5 27.6
15	11	9 38	5 20.8	23	10	17 29	5 42.3
15	9	9 47	5 10.8	15	12 $\frac{1}{2}$	17 32	5 24.6
15	11 $\frac{1}{2}$	10 19	5 17.1	23	10 $\frac{1}{2}$	17 43	5 32.4
15	10	0 10 50	+ 5 15.6	23	8 $\frac{1}{2}$	0 18 8	+ 5 42.4

* (4).

† Close double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		$h. m. s.$	$+ \circ$			$h. m. s.$	$+ \circ$
15	10½	18 20	+ 5 14.4	15	11	27 6	+ 5 22.9
23	12	18 54	5 44.4	15	10½	27 10	5 21.6
15	11	18 58	5 26.4	15	12	27 11	5 26.1
15	11	18 59	5 22.4	15	10½	27 14	5 20.8
23	12	19 22	5 40.9	15	12	27 16	5 26.0
23	11	19 25	5 47.8	23	10	27 17	5 45.7
15	11½	19 57	5 28.8	23	11	27 28	5 45.3
23	10	20 16	5 45.3	23	10½	27 54	5 40.1
23	11	20 23	5 45.0	17	9½	28 7	6 59.4*
15	12	20 30	5 28.8	17	11	28 11	6 54.5
15	12	20 40	5 15.1	15	10	28 27	5 17.5
15	12	21 3	5 13.6	15, 23	11	28 48	5 28.1
23	12	21 47	5 42.6	15, 23	10½	28 56	5 31.5
15	11	21 51	5 10.5	17	10½	29 7	6 58.3
23	9½	22 5	5 38.7	15	12½	29 14	5 21.0
15	11	22 19	5 26.9	15	12	29 33	5 9.4
15, 23	10	22 23	5 30.2	17	11	29 34	6 50.2
23	9½	22 24	5 38.3*	23	10	29 47	5 28.9
23	10	22 29	5 39.4	23	10	30 6	5 46.2
15	11	22 44	5 10.1	23	11	30 12	5 45.0
15	12½	23 25	5 11.8	15	10½	30 26	5 13.0
15	10	23 38	5 13.0	17	11	30 32	6 54.4
23	11½	23 41	5 29.1	23	9½	30 50	5 44.1
15	12	24 28	5 13.1	23	8½	31 14	5 40.6
23	10	24 40	5 43.6	17	11½	31 22	7 5.6
23	9½	24 52	5 44.0	23	10	31 22	5 46.1
23	10½	24 57	5 38.7*	23	10	31 27	5 45.3
15	11½	25 1	5 16.6	23	10	31 33	5 45.4
15	11	25 3	5 21.2*	15	10½	31 59	5 20.9
15	10½	25 55	5 18.3	15	11	32 3	5 11.8
23	9½	26 1	5 38.8*	17	10½	32 7	6 59.5
15	10	26 27	5 8.9	23	12	32 7	5 46.2
23	9½	26 27	5 28.3	23	10½	32 11	5 45.7
17	11	26 34	6 59.7	15	11½	32 25	5 26.2
17	10½	26 48	+ 6 52.5	17	11	32 29	+ 6 58.0

* (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
15, 23	11	^{h. m. s.} 0 32 38	+ 5 25.8	17	11½	^{h. m. s.} 0 39 43	+ 6 51.9
15, 23	11	32 51	5 26.3	23	10	39 48	5 33.6
17	11	32 56	6 53.9*	23	10½	39 48	5 32.5
17	11	33 14	6 56.2	17	10	40 7	7 0.3
15	11½	33 21	5 24.5	23	9½	40 27	5 36.9†
15	11	33 29	5 29.6	23	11	41 35	5 36.1§
17	11	33 30	6 59.2	17	11	41 45	7 3.9
23	11	33 30	5 44.6	17	10	41 50	7 1.3
15	12	33 39	5 27.8	17	10	42 53	6 56.1
23	10	33 52	5 43.3	23	11½	43 7	5 28.2
23	9½	34 10	5 44.4	23	10	43 29	5 25.0
17	9½	34 24	7 0.1	23	9½	43 57	5 25.9
15	12	34 34	5 24.4†	17	10	43 59	6 57.9
17	11	34 35	6 58.6	17	9½	44 1	7 8.2
15	12	34 41	5 24.7	23	11½	44 35	5 42.8
15	12	34 47	5 28.5	23	10	44 58	5 31.5
23	10	34 50	5 31.2	23	9	45 7	5 36.0†
15	12	34 55	5 25.8	17	9½	45 17	7 6.5
23	11	35 36	5 49.2	17	11½	45 25	7 1.1
17	11	35 53	6 47.8	17	10½	46 29	6 51.6
23	10½	36 29	5 31.2	17	10	47 7	7 0.6
23	11½	36 36	5 30.9	23	11½	47 11	5 45.2
23	10½	36 39	5 46.8	17	12	47 52	7 3.4
17	12	36 49	7 4.8	23	10½	47 53	5 44.1
17	12	36 50	7 2.9	23	11½	48 20	5 27.2
17	12	36 53	7 1.6	17	12	48 24	7 1.0
23	10½	37 9	5 29.1	17	10	48 39	7 6.0
23	11	37 27	5 39.6	17	11½	48 59	6 55.3
23	10½	37 29	5 38.6	23	9	48 59	5 32.5
23	9½	37 38	5 32.6	17	11	49 24	7 0.5
17	12	38 22	6 51.8	17	10½	49 24	6 52.8
17	10	38 24	6 58.8†	17	11	49 34	7 6.1
17	11	38 45	6 58.9	23	11	49 35	5 39.3
23	11	38 56	5 45.1	23	9½	50 11	5 36.9†
23	9½	0 39 27	+ 5 34.7	17	10½	0 50 33	+ 6 58.2

* L. of double. † Close double. Qu. Sept. 29th, 1848. ‡ (4). § (4) Double. || A 10th.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
23	11	0 50 55	+ 5 42.3	17	11½	0 59 52	+ 7 0.4
23	12	51 1	5 43.2	23	10½	1 0 16	5 35.1
17	11	51 21	7 3.5	24	11	0 20	11 8.1
23	9	52 20	5 28.6	23	10½	0 32	5 31.6
23	11½	52 29	5 34.1	24	11	0 35	11 7.1
17	11½	52 30	7 9.7	24	11	0 36	10 55.2
17	11	52 31	7 8.4	17	10½	0 38	7 9.2
17	10½	53 9	6 58.2	17	10½	1 22	6 51.8
23	11	53 14	5 31.8	23	12	1 30	5 40.8
23	11	53 24	5 34.3	17	11	1 35	6 53.2
23	10	53 31	5 28.4	23	11	1 38	5 40.3*
23	10	53 41	5 30.7	24	9	1 44	11 6.6
17	10	54 46	7 1.2	23	11	1 46	5 31.2
17	11½	55 3	7 1.8	23	10½	1 55	5 32.1
23	11	55 11	5 40.7	24	11½	1 56	11 0.4
23	9½	55 19	5 47.9	24	11½	1 58	11 0.2
17	10	55 51	6 50.3	24	10	1 58	11 4.7
23	12	56 8	5 31.8	17	11½	2 44	6 49.1
17	11	56 10	7 4.1	17	11	3 1	6 51.1
23	12	56 38	5 32.1	24	11½	3 12	11 5.1
17	11½	57 2	6 54.0	24	10	3 21	11 5.7
23	11	57 10	5 35.6	15	11½	3 35	4 29.3
23	10½	57 14	5 33.0	15	11½	3 55	4 11.7
23	11	57 27	5 33.9	23	11	3 56	5 30.8
23	10	57 44	5 43.8	17	9½	4 8	7 8.9
23	11½	57 49	5 40.7	24	11	4 10	11 7.0
23	10	57 51	5 32.2	17	10	4 11	6 57.4
17	11	58 19	6 55.0	24	11½	4 12	11 10.7
17	10	58 20	7 0.2	24	10½	4 27	11 8.9
23	9	58 41	5 27.8	23	10½	4 36	5 30.2
17	10½	58 44	6 53.1	23	11½	4 43	5 30.1
23	10½	59 5	5 39.8	15	11	4 56	4 17.9
17	11½	59 28	7 2.9	15	11	5 0	4 17.7
23	11	59 46	5 32.0	17	9½	5 8	6 55.6
17	11½	0 59 47	+ 7 1.0	17	11½	1 5 10	+ 6 51.8

* Close double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	11	^{h. m. s.} 1 5 23	+ 6 54.2	24	9½	^{h. m. s.} 1 10 18	+ 10 55.6
17	11	5 28	6 49.1	15	11	10 37	4 27.9
15	10½	5 29	4 11.9	15	11	10 40	4 28.7
24	11½	5 36	10 52.0	15	11½	10 58	4 25.4
17	11	5 37	6 51.0	23	11	10 59	5 41.7
23	11½	5 38	5 29.6	17	10	11 4	7 5.2
23	12½	5 41	5 31.2	24	11½	11 13	10 50.5
15	11½	5 55	4 12.3	23	10½	11 22	5 34.6
17	10½	6 14	6 50.6	17	11	11 30	7 0.1
23	12	6 20	5 44.2	24	9	11 37	10 55.0
17	12	6 45	7 2.6	23	9	11 39	5 34.7
24	11	6 46	11 2.1	23	9	12 1	5 46.8
24	11½	6 53	10 54.7	23	10	12 20	5 46.5
15	11	7 5	4 13.2	24	7	12 20	10 59.6*
17	9½	7 21	6 53.6	17	10½	12 25	6 51.2
17	9	7 32	6 48.7	17	11½	12 30	6 49.6
23	11½	7 32	5 34.8	23	11½	12 36	5 42.8
23	11	7 34	5 37.6	17	11	13 8	7 3.9
24	11½	7 48	10 53.6	24	8½	13 10	10 59.8
17	10	8 7	7 3.9	23	9½	13 16	5 39.6
17	10½	8 12	7 3.3	24	11	13 17	10 56.4
23	10	8 13	5 35.1	15	11½	13 42	4 24.4
17	9	8 28	6 53.6	23	11½	13 57	5 33.0
24	10	8 33	11 0.0*	17	11½	14 1	7 4.8
24	9½	8 35	11 1.6	15	11	14 3	4 26.7
23	11½	8 57	5 40.6	17	11	14 10	6 59.3
17	10½	9 5	7 0.7	17	10	14 22	6 59.4
17	11½	9 26	6 49.9	17	9½	14 25	7 5.8
17	10½	9 27	6 56.7*	23	11	14 32	5 39.2
23	12	9 28	5 44.5	23	9½	14 56	5 46.1
23	11½	9 33	5 42.7	23	7	14 59	5 38.7
24	9	9 44	11 7.4	15	11	15 32	4 18.9
23	11½	9 54	5 43.0	17	11½	15 43	6 54.8
17	10	9 55	6 53.5	24	12	15 51	10 54.9
17	9½	1 10 14	+ 7 0.8	15	11	1 15 52	+ 4 21.2

APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
24	12	1 15 53	+10 56.9	24	11	1 20 52	+11 0.6
17	11½	16 8	7 7.2	23	11	20 53	5 45.1
15	10½	16 9	4 19.3	23	11	21 5	5 46.4§
24	11	16 32	10 52.0	15	10½	21 6	4 13.8
17	11½	16 50	7 5.4	23	9½	21 7	5 39.9
17	11½	16 52	7 6.2	15	11½	21 10	4 16.8
23	11½	16 57	5 44.4	17	10	21 12	7 1.2
17	10	17 9	7 7.3	17	10½	21 24	7 6.7
17	10	17 10	6 57.4	17	10½	21 29	7 5.7
24	9½	17 21	10 57.6*	17	10	21 38	6 59.8
17	11½	17 55	7 3.2	23	10½	21 42	5 31.8
15	11	18 6	4 19.2	15	11	21 50	4 25.4
23	11½	18 8	5 40.3	15	10	21 59	4 23.3
24	11½	18 9	10 59.6	24	9	22 8	11 3.3
23	9	18 20	5 32.8†	23	9	22 14	5 40.1
17	10½	18 22	7 3.4	24	9½	22 14	11 0.1
24	9	18 27	10 56.2	24	11	22 16	11 6.6
17	10½	18 30	7 4.0	15	11½	22 17	4 12.9
23	10½	18 32	5 38.4	17	11	22 25	6 55.4
23	11½	18 32	5 44.5	15	11	22 26	4 18.8*
23	10½	18 52	5 40.3	15	10	22 35	4 19.2
24	11	18 52	10 55.8	17	9	22 35	7 2.0
17	10½	18 54	7 1.0	17	12	22 43	7 6.9
17	10½	19 1	6 54.6	24	9½	22 45	11 1.4
17	10½	19 11	6 47.8	23	11	22 46	5 30.9
17	11	19 14	6 56.4	23	11	22 51	5 33.0
23	11	19 14	5 39.7	24	9½	22 54	11 6.0
15	11½	19 35	4 24.1	23	10	23 3	5 43.0
15	11	19 46	4 26.0	23	10	23 8	5 30.9
23	10	20 5	5 31.2‡	15	10	23 27	4 21.3*
17	10	20 10	7 2.4	23	10½	23 32	5 33.5
24	11	20 29	10 56.3	17	10	23 45	7 4.2
17	12	20 38	7 3.2	17	11½	23 50	7 4.9
17	11½	20 46	7 5.5	15	11	23 54	4 11.1
15	10½	1 20 49	+ 4 25.9	24	11	1 23 58	+11 2.0

* (4). † Obs. Nov. 1st, 1852, but omitted in catalogue, minute being marked doubtful

‡ Close double.

§ Triple.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
24	10½	1 24 23	+11 1.9	24	11	1 28 30	+10 53.5
24	10	24 33	10 59.3	24	11½	28 54	11 7.4
24	10½	24 34	11 0.8	24	11½	28 58	11 3.1†
15	11	24 58	4 24.0	15	11	29 6	4 15.0
17	10½	25 0	6 56.1*	23	10½	29 13	5 31.6
23	12½	25 1	5 42.8	23	11½	29 19	5 31.3
15	11½	25 7	4 27.1	15	11½	29 42	4 15.7
15	9½	25 8	4 11.1	23	12	29 48	5 46.3
23	12	25 8	5 43.6	17	10½	29 50	7 5.8
23	11	25 15	5 47.0	15	10	29 59	4 23.3
24	10½	25 20	10 56.6	24	11½	30 3	11 4.5
15	9	25 37	4 16.6	15	10½	30 7	4 27.8
23	8	25 44	5 47.5	17	12	30 9	6 51.1
15	10	25 48	4 12.4	24	10	30 15	10 50.5
24	11	25 53	11 4.7	24	11	30 16	11 4.5
24	10½	25 54	10 56.4	23	11	30 18	5 36.6
17	10	26 5	6 59.3*	15	11	30 20	4 28.5
24	11½	26 6	10 59.5	17	11½	30 25	6 50.4
24	10	26 8	11 2.8	17	9½	30 27	6 52.3
15	11	26 11	4 15.2	23	10	30 30	5 41.4
17	11	26 21	6 48.0	17	11½	30 59	6 54.7
23	9	26 35	5 40.0	24	9½	31 2	11 4.2
23	9½	26 39	5 36.9*	24	9½	31 8	10 55.3
17	10	26 50	6 49.1	15	11½	31 14	4 17.7
15	11½	26 55	4 15.3†	17	11	31 15	7 2.6
15	11½	26 57	4 18.6:	24	11	31 21	11 5.7
24	10	27 24	10 54.3	24	11	31 24	11 2.2
24	10	27 31	10 51.4	23	11½	31 37	5 31.0
17	11½	27 32	6 48.4	15	11	31 40	4 23.0
17	11½	27 41	6 49.5	15	10½	31 51	4 22.7
24	10	27 45	11 5.0	23	11	32 0	5 36.4*
15	12½	27 46	4 16.9	23	11	32 25	5 39.0
24	10	28 5	10 56.6	23	12	32 50	5 40.2
15	11½	28 13	4 15.4	15	12	32 53	4 29.7
23	11½	1 28 27	+ 5 34.0	23	10½	1 33 17	+ 5 47.9

* (4).

† L. of double.

‡ Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	+ ° ' "			h. m. s.	+ ° ' "
17	9	1 33 19	+ 6 49.8	17	12	1 37 43	+ 6 49.0
17	12	33 22	6 52.0	17	12	37 52	7 1.6
23	10	33 23	5 43.2	24	9½	38 2	11 8.1
24	12	33 23	11 1.8	24	11½	38 56	11 3.7
15	10½	33 34	4 16.8	17	10½	39 1	6 49.7
23	11	33 37	5 47.2	24	11½	39 5	11 4.9
24	11½	33 37	10 54.3	24	10	39 43	10 54.6
24	11	33 39	10 51.6	17	10	40 15	6 52.9
24	9	33 41	10 52.3	17	11½	40 18	6 55.3
23	9	33 58	5 46.4	24	11	40 30	11 0.7
15	11	34 2	4 21.2*	17	10½	40 43	6 54.6
15	9	34 6	4 17.7	23	12	40 44	7 57.2
15	11	34 8	4 25.0	24	11½	41 0	11 7.6
23	11	34 10	5 39.6	17	11	41 28	7 1.1
24	10	34 26	10 48.9	24	10	41 32	11 7.3
17	12	34 59	6 48.4	24	12	41 34	11 7.6
24	12½	35 12	11 3.7	23	11½	42 0	8 5.4
17	12	35 13	6 59.9	24	12	42 0	11 6.7
17	11	35 15	7 7.1	17	11	42 6	7 8.6
15	9	35 24	4 19.9	24	10	42 6	11 9.0
23	11½	35 26	5 40.6	23	11½	42 10	8 7.4
23	12	35 31	5 30.2	17	11½	42 14	6 54.5
24	10½	36 5	11 2.1	24	10	42 38	11 7.0
24	10½	36 8	11 2.3	23	12	42 41	7 47.4
17	11½	36 21	6 49.1	24	10½	42 43	11 6.5
15	10	36 27	4 18.9*	23	12	42 47	7 47.7
24	10½	36 32	11 4.4	17	10	42 56	6 51.4
24	9½	36 33	11 5.4	23	9	43 28	7 46.6
17	10½	36 36	6 49.9	24	10	43 47	11 6.5
24	11	36 36	11 0.9	24	11½	43 57	11 4.7
17	9	36 37	7 3.7	17	10	44 18	6 49.6
24	12	37 13	11 6.0	23	9	44 23	8 5.3
24	11½	37 26	11 2.4	24	11	44 26	11 7.0
17	9	37 35	7 1.6	23	12	44 36	8 3.5
24	10	1 37 38	+10 58.6	17	10½	1 44 43	+ 6 50.1

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$ $'$ $''$			h. m. s.	$^{\circ}$ $'$ $''$
23	12	1 44 43	+ 8 2.2	17	10	1 50 10	+ 7 6.2
23	12	44 46	8 4.3	23	11	50 44	8 2.9
17	11 $\frac{1}{2}$	45 7	7 2.2	23	11	50 46	8 0.6
17	10 $\frac{1}{2}$	45 15	7 6.4	17	11	51 1	6 56.2
23	11	45 16	7 53.9	23	10	51 4	7 53.0
17	10 $\frac{1}{2}$	45 31	7 0.4	23	9 $\frac{1}{2}$	51 12	8 9.9
17	10 $\frac{1}{2}$	46 9	6 51.3	17	10	51 17	6 56.7
23	12	46 16	8 2.7	17	10 $\frac{1}{2}$	51 18	6 52.1
23	11	46 23	8 2.6	17	11	52 2	6 57.5
24	11	46 25	11 4.3	23	12	52 14	7 49.8
17	11	46 28	6 54.5	23	10 $\frac{1}{2}$	52 16	7 56.1
24	11	46 40	11 2.6	23	12	52 21	7 57.2
24	11	46 41	10 57.6	17	9	52 26	6 51.4
24	10	46 41	10 49.8	17	11	53 7	6 48.5
17	11	47 2	6 52.7	23	9	53 23	7 57.3†
17	12	47 13	6 48.8	17	10	53 28	6 53.1
17	12	47 18	6 52.3	17	11 $\frac{1}{2}$	54 12	7 0.8
24	10 $\frac{1}{2}$	47 39	11 6.7	23	11	54 24	7 50.6
24	11 $\frac{1}{2}$	47 41	11 0.2	17	11 $\frac{1}{2}$	54 43	7 1.2
17	9 $\frac{1}{2}$	47 50	7 3.0*	24	10	54 43	10 57.3
23	11 $\frac{1}{2}$	48 1	8 1.6	24	11	54 44	10 55.9
23	12	48 8	8 6.1	24	9	54 49	11 6.9
23	10	48 11	8 8.8	23	11	55 5	8 8.7
23	12	48 14	8 1.9	24	10	55 16	10 52.7
17	10 $\frac{1}{2}$	48 26	7 4.7	23	10 $\frac{1}{2}$	55 49	7 53.1
24	11	48 30	11 0.9	23	11	55 56	7 57.0
17	9	48 50	6 45.2	23	11	56 12	8 4.0
24	10	48 53	10 55.7	24	11	56 30	10 52.7
23	10 $\frac{1}{2}$	49 4	7 57.0	17	11 $\frac{1}{2}$	56 35	7 0.5
23	11	49 5	7 50.2	23	12	56 52	8 9.3
23	12	49 13	7 53.1	24	11	56 57	10 53.3
17	11	49 22	7 5.7:	23	10	57 17	8 7.2
17	11	49 36	7 0.9	23	11 $\frac{1}{2}$	57 38	8 6.6:
17	11	49 49	7 0.7	23	11	57 46	8 5.8
24	11	1 50 9	+ 10 56.4	23	10 $\frac{1}{2}$	1 57 47	+ 8 7.3

* L. of double.

† (4).

E

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] ['] ^{''}			^{h.} ^{m.} ^{s.}	[°] ['] ^{''}
24	10	1 57 48	+11 4.8	24	8½	2 6 53	+11 1.9
24	9	58 0	10 56.0	24	8	7 8	11 5.0†
17	11	58 28	6 58.2*	24	12½	7 29	11 3.4
17	11½	58 31	7 2.9	15	11½	9 21	13 1.8
17	11½	58 31	7 3.5	24	9½	9 35	10 55.8
23	9½	58 38	7 56.9	15	11	11 5	13 7.0
24	10	59 5	10 58.7	24	11	11 7	11 0.0
24	9½	59 17	10 54.5	24	11½	11 15	11 4.1
23	11½	59 18	7 56.7	24	11½	11 43	11 2.5
24	10	59 32	11 5.3	15	10½	12 29	12 57.9
24	9	59 37	10 54.3	24	10½	12 50	10 52.7
24	9½	1 59 46	11 3.3	24	10½	13 4	10 56.0
17	12	2 0 3	7 3.6	15	10	13 9	13 6.9
24	11½	0 46	10 54.7	24	10½	13 38	11 7.0
23	10½	0 53	7 50.1	15	10½	13 54	12 50.6
24	10½	1 8	11 5.7	15	10	14 3	12 57.0
24	10½	1 15	11 5.9†	24	9½	14 20	11 1.2
24	12	2 4	10 53.1	24	10	14 26	11 4.4
24	11	2 23	10 52.3	15	9½	14 37	12 57.3
23	10	2 31	8 9.3	15	11	14 37	12 53.4
24	9½	2 39	10 55.6	24	11	14 40	11 1.1
23	12	3 11	7 52.5	15	12	14 53	13 1.1
24	10½	3 17	10 59.8*	24	10½	15 13	10 54.4
24	11½	3 42	10 57.8	15	10	15 23	12 59.9
24	9	3 43	11 3.3	24	11	15 58	10 54.1
24	11	3 50	10 57.9	24	11½	16 46	10 52.0
23	10	4 25	7 50.5	15	12	16 48	12 55.0
24	11	5 30	10 54.5	15	11½	16 51	12 50.3
23	10	5 38	8 8.7	24	12	17 2	10 52.2
23	12	5 42	8 4.8	24	11½	17 2	10 50.4
24	11	6 0	10 53.8	15	11½	17 59	13 3.1
23	10½	6 3	8 5.6	15	10	17 59	12 54.6
24	9	6 14	11 0.0	24	11½	18 11	10 53.9
24	9½	6 24	11 6.0	24	9	18 23	10 52.9
23	10	2 6 27	+ 8 4.3	24	10	2 18 33	+10 7.4‡

* (4).

† L. of double.

‡ Qu. 100 Weiss.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
24	10 $\frac{1}{2}$	^{h. m. s.} 2 19 16	[°] +11 2.6*	15	11	^{h. m. s.} 2 28 28	[°] +12 59.4
15	11 $\frac{1}{2}$	19 32	12 57.2	24	11 $\frac{1}{2}$	28 32	10 53.2
24	10	19 35	11 3.8	24	9	28 36	11 0.0†
24	12	19 35	10 59.9	24	12	29 35	10 59.8
15	11 $\frac{1}{2}$	19 38	13 0.8†	15	11	29 54	13 6.5
15	12	19 53	12 58.1	15	10 $\frac{1}{2}$	30 15	13 1.9
15	11	20 5	13 7.2	15	11	30 22	13 2.2
24	11	20 24	10 50.0	24	11 $\frac{1}{2}$	30 44	11 6.6
15	12	21 18	13 1.6	24	10 $\frac{1}{2}$	31 44	10 53.3
24	12	21 20	11 5.3	24	10	31 53	11 6.5
15	12	21 22	13 4.9	24	11	31 54	10 55.8
24	12	21 40	11 4.1	15	10 $\frac{1}{2}$	31 55	13 8.8
15	12	22 3	13 6.0*	15	10 $\frac{1}{2}$	32 9	13 7.6
24	11	22 46	10 54.2	24	9	32 37	10 52.0
24	11	22 48	10 54.0	24	11	33 10	11 1.8
15	12	23 3	13 5.3	24	11	33 16	10 54.8
15	12	23 10	13 3.9	15	10	33 33	12 51.0
15	11 $\frac{1}{2}$	23 29	12 55.3	15	9 $\frac{1}{2}$	34 0	13 8.0
24	11	23 44	11 6.6	15	9 $\frac{1}{2}$	34 17	13 3.0
24	11 $\frac{1}{2}$	24 4	11 6.3	24	11 $\frac{1}{2}$	34 18	11 2.2
24	11	24 11	11 10.6	24	10 $\frac{1}{2}$	34 23	10 53.7
15	9 $\frac{1}{2}$	24 33	12 52.6	24	11	34 38	11 5.3
15	10 $\frac{1}{2}$	24 58	12 54.2	24	10	34 45	11 1.5
24	10 $\frac{1}{2}$	24 58	11 6.3*	24	11	34 51	11 4.3
24	11 $\frac{1}{2}$	25 5	11 1.3	15	9 $\frac{1}{2}$	35 21	12 54.7
24	12	25 7	11 3.5	15	11 $\frac{1}{2}$	36 13	12 53.8
24	11 $\frac{1}{2}$	26 8	10 55.4	15	10	36 26	12 56.3
15	12	26 11	13 3.1	15	9	36 47	13 8.9
15	11	26 18	13 2.5	15	9	37 2	13 0.5†
24	10 $\frac{1}{2}$	26 20	10 50.0	15	9 $\frac{1}{2}$	37 35	13 1.5
24	10	26 45	10 52.3	15	11	37 44	12 55.4
15	9 $\frac{1}{2}$	27 5	13 0.6†	15	9 $\frac{1}{2}$	37 48	13 0.7†
24	11 $\frac{1}{2}$	27 26	11 6.5	23	11	38 19	13 59.9
24	12 $\frac{1}{2}$	27 32	11 4.2	15	11	39 21	12 57.4
24	9 $\frac{1}{2}$	2 28 13	+10 55.2	23	11	2 39 53	+13 59.4

* L. of double.

† (4).

‡ (4). A small companion.

Days Obs.	Mag.	α .		δ .	Days Obs.	Mag.	α .		δ .
		h. m. s.	°				h. m. s.	°	
23	11	2 39 58	+13 58.2	23	12	2 52 8	+13 52.4		
15	11	40 10	13 1.3	15	12½	52 10	13 1.8*		
15	10	40 14	13 7.4	23	11	52 14	13 48.7		
15	10	40 27	13 7.4	23	11	52 18	14 2.4		
23	11	41 26	14 1.5	23	10	52 25	14 2.2		
23	11½	41 33	13 51.5	15	11	52 32	12 54.8		
15	10½	41 34	12 52.7	15	11	52 44	12 57.8		
15	12	41 46	12 55.0	15	11	52 51	12 58.5*		
23	10½	41 46	13 51.7	15	11½	54 11	13 4.5		
15	12	42 46	12 51.6	23	12	54 12	13 54.4		
15	11	42 53	12 56.9	23	11	54 17	13 54.5		
15	11	42 58	12 52.7	23	9	54 48	13 59.0		
23	10½	43 35	13 48.4	15	10½	54 56	12 58.8*		
15	10	43 43	13 10.8	15	10½	55 15	12 56.1		
23	8	44 9	14 4.0	23	11½	55 40	13 49.0		
15	11	44 22	12 52.2	15	12	56 6	12 51.5		
23	10	44 47	13 49.5	23	10	56 28	14 2.1		
15	12	45 12	13 8.9	23	10½	56 30	13 55.6		
15	12	45 14	12 56.4	23	12	56 45	14 6.0		
23	9	45 32	13 59.5	23	10½	56 47	14 0.9		
23	10½	45 39	13 59.9	15	9½	57 3	12 59.0		
23	10	45 48	14 4.2	15	11	57 4	13 8.6		
15	12	46 4	12 57.6	15	9½	57 11	13 3.3		
15	9	46 31	13 1.5*	15	10	57 11	13 7.0		
15	9½	46 55	12 51.3	23	11	58 20	14 2.2		
23	11	47 45	14 2.7	15	9½	58 28	12 52.5		
23	11½	48 4	13 53.3	23	10½	58 30	14 1.7		
15	10½	48 6	13 9.3	23	11½	58 35	14 2.4		
15	11	48 39	13 0.9†	23	10	58 44	13 59.7*		
23	9	49 5	14 5.3	15	11	2 58 45	12 49.7		
23	11	49 26	14 4.4	23	10	3 0 3	13 51.0		
15	10	50 28	13 9.0	15	10	0 34	13 4.8		
23	10	50 52	13 49.8	23	11	0 40	13 59.0		
15	11	50 59	12 57.8	23	10½	0 41	14 2.2		
23	11	2 51 53	+13 52.0	15	11½	3 1 31	+12 54.8		

* (4).

† An 11th close.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$
15	9 $\frac{1}{2}$	3	1	39.	+13 7.3	23	11	3	15	38	+13 53.1
23	10		1	54	14 1.7	23	12		15	50	13 51.4
23	11		2	11	13 48.1	23	9		17	21	13 55.2
15	10 $\frac{1}{2}$		3	3	12 53.7	23	10		17	21	13 50.6
23	9 $\frac{1}{2}$		3	7	14 0.6	23	11		18	27	13 57.5
15	10		3	13	12 59.7	23	10		18	44	13 52.8
23	12		3	13	13 57.5	23	11 $\frac{1}{2}$		18	57	14 1.4
23	10		3	23	13 57.5	23	12		20	11	13 54.0
23	10		3	48	14 0.5	23	12		20	26	13 49.2
15	11		3	57	13 2.0	23	12		20	27	13 54.6
23	10		4	26	13 57.5	23	12		22	13	13 49.7
15	12		4	31	13 6.8*	23	11		22	48	13 47.8
15	10		4	34	13 5.9	24	11 $\frac{1}{2}$		23	11	18 4.6
23	10		5	1	13 52.1	24	12		23	14	18 3.6
23	11		5	10	13 52.2	24	11		23	22	18 5.3
23	11 $\frac{1}{2}$		6	38	13 59.6	23	12		23	54	13 59.1
23	11 $\frac{1}{2}$		6	49	13 59.3	24	9 $\frac{1}{2}$		23	57	17 47.9
23	10		6	51	14 4.6	23	11		24	4	13 53.8
23	11 $\frac{1}{2}$		7	4	14 2.8	23	11 $\frac{1}{2}$		24	7	13 49.5
23	12 $\frac{1}{2}$		7	5	14 0.3	23	10		24	31	13 56.4†
23	10 $\frac{1}{2}$		8	5	14 6.2	24	10 $\frac{1}{2}$		24	41	18 2.0
23	9 $\frac{1}{2}$		8	9	14 3.0	23	9		25	4	14 1.0
23	9 $\frac{1}{2}$		8	27	13 59.3	23	11		25	37	14 0.4†
23	10		9	22	14 0.3	24	11		26	12	18 2.5
23	9		10	34	13 46.2	24	11		26	22	17 59.5
23	11 $\frac{1}{2}$		10	40	13 56.3	24	12		26	23	17 56.5
23	10 $\frac{1}{2}$		11	42	14 8.5	24	11 $\frac{1}{2}$		26	39	17 54.1
23	9 $\frac{1}{2}$		12	15	14 6.9	23	11 $\frac{1}{2}$		26	51	14 4.4
23	10		12	26	14 2.9	24	11		27	26	17 56.9
23	11		12	55	14 1.6	23	10		27	38	13 55.9
23	10		13	10	13 59.9	23	12		27	47	14 5.4
23	10 $\frac{1}{2}$		13	54	14 2.9	23	12		28	6	14 4.6
23	11		14	20	14 6.1	15	11		28	16	23 30.2
23	11		14	56	14 7.1	23	9		28	50	13 52.7
23	12	3	15	33	+13 49.7	23	11	3	28	52	+13 50.6

* Double.

† (4).

‡ First of 3.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
15	11	3 28 53	+23 31.1	15	11	3 35 16	+23 46.1
24	10½	28 53	18 8.9	24	10	37 24	17 55.0
24	11	28 58	18 5.4	24	11½	37 45	17 54.8
23	11½	29 18	14 1.2*	24	11½	38 6	17 55.7
24	11	29 28	18 6.8	15	11	38 10	23 31.4
24	10	29 29	17 59.0	24	11½	38 24	18 8.1
15	11	30 6	23 42.8	15	10½	38 35	23 40.3
24	10	30 9	18 3.0	24	11	39 6	17 52.4
15	11	30 35	23 44.9	24	11½	39 42	18 5.6†
15	10½	30 35	23 32.0	24	10½	40 47	17 51.2
15	11½	30 46	23 40.2†	24	11	40 57	17 54.5
24	10½	30 49	17 54.3	24	10	41 2	17 56.9
15	10½	30 50	23 34.7	24	10	41 32	18 3.2
24	11½	31 3	17 52.5	24	10½	41 56	18 5.4
24	12	31 10	17 52.5	24	11½	41 56	18 11.4
24	11	31 25	17 58.4	15	10½	42 7	23 27.0
24	11	31 50	17 52.5	15	12	42 31	23 30.2
15	11	31 53	23 39.9	24	12½	43 7	18 3.5
15	11	31 54	23 43.7	15	10½	43 13	23 46.6
15	12	32 7	23 48.2	24	12	43 24	17 52.0
15	11½	32 9	23 47.6	24	12	43 32	17 56.6
24	12	32 9	18 4.9	24	12	43 36	17 55.0
24	11	32 53	18 6.6	15	11½	43 50	23 49.6
24	10	32 53	18 9.9	15	10½	44 7	23 48.0
24	10½	33 1	18 4.8	24	12	44 52	17 54.5:
15	12½	33 12	23 46.4	24	12	44 52	17 53.9
15	12½	33 21	23 48.0	24	11	45 3	17 54.1
24	10½	33 26	18 9.3	24	10½	45 14	17 52.9
15	10½	33 52	23 47.3	15	11	45 18	23 37.8
24	11	34 22	18 2.0	15	9½	45 26	23 37.7†
24	10	34 32	18 5.2	15	10	45 49	23 46.9
24	11	34 36	17 59.0	15	10	45 59	23 44.7
24	—	34 36	17 59.6	24	9½	46 8	17 49.9
15	10½	35 1	23 46.3	24	9	46 20	17 55.9§
15	10½	3 35 6	+23 40.1	15	12	3 47 20	+23 32.8

* An 11½ s. p.

† (4).

‡ A 12th s.

§ L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	°			h. m. s.	°
15	12	3 47 27	+23 36.1	24	12	3 57 26	+17 57.4
24	10½	47 34	18 6.1	24	11½	3 59 43	17 59.7
24	11½	47 42	18 3.7	24	12	4 0 0	18 1.3
24	10	47 52	18 5.4	24	10½	0 2	18 2.1
24	10½	47 59	18 4.1	24	9	0 5	17 55.2
15	9½	48 8	23 45.6	24	11½	0 6	18 1.1
15	12	48 19	23 43.2	24	12	0 39	17 59.7
24	11½	49 2	17 56.8	24	11	0 44	17 59.7
24	11	49 3	17 54.8*	24	10	2 35	17 59.2
24	11	49 11	18 7.7	24	11	2 38	18 2.5
15	10	49 39	23 28.9	24	11	2 40	18 4.1
15	11½	49 51	23 37.1	24	11	2 41	17 52.4
15	11½	49 51	23 36.4	24	11	4 42	18 4.7
24	11	50 27	17 54.6	24	11	4 51	17 50.2§
24	11½	50 39	17 51.9	24	11	5 52	18 2.8
15	12	50 48	23 30.9	24	12	6 1	18 6.3
15	11	50 53	23 31.8	24	11½	6 3	18 5.4
24	12	51 27	18 8.4†	24	10	6 43	18 10.1
24	10	51 37	18 5.5	24	11	6 52	18 5.4
24	11½	52 42	18 4.0	24	12	7 17	18 11.0
24	11½	52 53	18 6.3	24	11	8 8	18 3.2
24	9½	53 11	18 1.9	24	10½	8 9	18 6.2
24	11	53 15	17 56.9	24	11	9 40	17 57.0
15	11	53 20	23 44.4	24	11½	9 45	17 54.5
15	11	53 33	23 47.0	24	11½	10 7	18 0.6
15	11	53 54	23 45.5	24	10½	10 39	17 51.3
24	11	54 6	17 58.1‡	24	12	13 44	18 2.9
15	11½	54 35	23 35.8	24	11	13 57	18 1.4
15	11	55 0	23 33.5	24	10	14 7	18 6.6
24	10½	55 4	17 55.8	24	12	14 54	18 0.7
24	12	55 41	17 56.3	24	11½	15 3	17 54.2
15	11	55 47	23 28.9	24	11	16 18	18 7.9
24	10	56 49	18 8.6	24	11	16 39	17 58.0
24	10	57 6	18 3.7	24	11½	17 7	17 55.8
24	11½	3 57 8	+18 2.0	24	11½	4 17 16	+18 5.4

* L. of a group.

† Nebulous.

‡ (4).

§ L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
24	10½	4 17 41	+17 57.7	24	11½	4 35 46	+18 7.3
24	11	20 10	17 58.8	24	10½	35 52	18 6.4
24	10	20 26	18 7.2*	24	12	37 13	18 7.4
24	10	21 22	17 53.8	24	12	37 18	18 7.4
24	9½	22 44	17 56.6	24	12	38 28	18 5.0
24	10½	23 20	18 12.2	24	11	38 43	18 3.6
24	12½	23 47	18 5.5	24	11½	38 57	18 4.2
24	11½	23 58	17 53.3	24	9	39 8	18 8.4
24	10½	24 33	17 56.7*	24	11	40 20	18 4.3
24	11½	25 0	18 5.1	24	12	40 21	18 8.6
24	10½	25 16	18 8.9	24	11	40 21	18 1.3
24	11	25 48	18 1.8†	24	11	41 12	18 2.4
24	10½	26 33	18 2.6	24	9½	41 33	17 51.5
24	9½	26 39	17 56.5	24	9½	42 3	18 3.8
24	11	26 59	17 58.7	24	11	43 23	18 0.8†
24	11	27 55	18 3.5	24	11	43 46	18 8.7
24	11½	28 29	17 56.5	24	11	45 7	17 56.0
24	9½	28 36	17 59.3	24	10	45 33	17 58.8
24	9	28 58	18 4.9	24	11½	45 50	17 54.7
24	11	29 7	18 3.2	24	11½	45 58	17 55.2
24	11	29 42	17 59.1	24	10	47 2	17 51.2
24	10½	30 22	17 55.9:	24	11	47 7	18 7.4
24	11½	30 40	18 3.4	24	10½	47 47	17 59.2
24	11	30 57	18 8.3	24	11	47 51	18 7.1
24	11½	31 16	18 6.4	24	10½	48 4	18 3.8
24	10½	31 30	17 59.9	24	12	48 41	18 1.1
24	8½	31 43	17 51.4	24	11	49 15	17 57.0
24	11	32 17	18 6.3	24	11	50 0	17 55.3
24	11½	32 59	18 1.3	24	10	50 4	17 56.2
24	10	33 6	17 58.9	24	11	50 16	17 53.5
24	11	33 8	17 52.7	24	11	50 42	17 57.2
24	9	33 31	18 3.4	24	9	51 12	17 57.7
24	11½	33 38	18 4.7	24	11½	51 17	17 56.1
24	12	34 48	17 54.1	24	11	51 41	18 6.1
24	12½	4 34 51	+17 52.7	24	11½	4 52 37	+17 54.3

* L. of double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
24	11	4 53 2	+18 8.3	24	9	5 46 31	+20 2.3 §
24	12½	53 20	18 6.8	24	10	46 46	19 51.5
24	10½	54 56	18 6.3	24	9½	47 34	20 3.1 †
24	12	55 2	18 2.2	24	9½	48 1	20 5.0
24	11½	55 16	17 57.0	24	9½	48 55	19 55.6
24	10½	55 30	18 2.2	24	10	49 18	19 56.0
24	10½	56 5	18 1.1	24	9½	49 29	20 5.8
24	11	57 3	18 1.7 *	24	9	50 17	20 8.8
24	12	58 15	18 1.4	24	10	50 20	20 8.0
24	11	58 43	18 5.9	24	11	52 7	20 8.1
24	9	58 57	18 2.9	24	11	52 39	20 5.3
24	11	59 9	18 2.4	24	10	53 20	20 1.1
24	11	4 59 12	18 7.3	24	10	53 24	20 2.7 *
24	9½	5 0 3	18 5.1	24	10	53 31	19 57.6
24	10	0 15	17 57.7	24	11	54 3	19 55.2
24	10	0 43	17 59.7	24	10½	55 25	20 3.5
24	9½	0 54	18 5.4	24	10½	56 18	19 55.0
24	11½	2 3	17 54.6	24	9	56 26	20 8.1
24	11½	2 7	17 51.2	24	11	56 34	20 8.0
24	10	2 8	17 55.7	24	11	56 51	20 3.7
24	9½	2 47	17 57.2	24	11	57 18	20 7.3
24	11½	3 10	17 55.5 †	24	11	57 30	20 4.6
24	10	3 38	17 52.0	24	9	57 48	20 6.8
24	9½	41 13	19 52.8 :	24	11	58 11	20 1.7
24	10	41 25	19 55.4	24	9	58 25	20 7.8
24	10½	42 45	19 59.4	24	11	58 30	20 6.8
24	11½	43 17	20 2.4	24	11	58 52	20 4.0
24	10	43 30	20 5.0	24	11	59 49	19 51.9
24	11½	43 32	20 4.4	24	10	5 59 59	19 53.5
24	11	44 36	20 5.4	24	11	6 0 3	19 59.2 *
24	9½	44 39	19 51.1	24	11	0 36	20 3.4
24	10	45 17	19 54.2 †	24	9	0 50	20 5.9
24	11	45 41	19 56.4	24	10	2 2	20 1.1
24	11	45 53	19 56.0	24	10½	2 3	19 58.0
24	11½	5 46 12	+19 56.6	24	10	6 2 3	+19 56.6

* (4).

† Double.

‡ A 10th s.

§ L. of triple.

|| L. of double.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.				h.	m.	s.	
24	10	6	2	7	+20 8.7*	24	11	6	23	41	+24 34.3
24	9½		2	39	19 59.3†	24	10½		23	53	24 33.6
24	9		2	49	20 9.3	24	10		24	4	24 47.5
24	9		3	22	20 7.0	24	11		24	55	24 31.0
24	8		4	5	19 51.0	24	9		25	3	24 37.2
24	10½		4	37	20 6.5	24	10		25	44	24 37.8†
24	9½		5	8	20 3.8	24	11		25	50	24 42.3
24	11½		5	43	19 58.7	24	11		26	57	24 30.3
24	9		5	44	20 4.5	24	11½		29	7	24 35.4
24	9½		6	14	19 56.8	24	10		29	56	24 37.8
24	11		6	17	20 1.8	24	10½		30	33	24 34.8
24	10		7	13	20 7.0	24	10½		30	40	24 37.0
24	11		7	26	20 8.7	24	10		31	13	24 30.4
24	10½		7	33	19 58.6	24	11		31	55	24 34.4
24	10½		7	35	19 55.3	24	9½		32	23	24 44.5
24	11		7	40	19 52.9	24	9½		32	27	24 31.6
24	10		8	32	19 53.5	24	11		33	26	24 40.4
24	11		9	1	20 4.8	24	11		33	45	24 41.0§
24	10		9	9	19 52.8	24	10		34	13	24 38.6†
24	9½		9	22	19 56.4	24	10		34	23	24 38.4†
24	9		10	4	19 57.6	24	10		34	38	24 38.6†
24	11½		12	26	20 2.8	24	8		34	57	24 41.7
24	11½		17	23	24 46.0	24	9		34	59	24 34.1
24	9		17	44	24 30.1::	24	9		35	13	24 42.1
24	9		17	48	24 30.2::	24	9		36	21	24 42.6
24	9½		18	45	24 44.1::	24	10½		36	28	24 51.0
24	9		20	29	24 35.0	24	10		37	14	24 37.4
24	9½		20	36	24 32.1:	24	11		37	43	24 34.4
24	9		20	48	24 35.9	24	11		37	48	24 35.4
24	9½		21	29	24 40.6†	24	11		37	57	24 33.3
24	10		21	59	24 46.9	24	11		38	7	24 35.5
24	10		22	41	24 31.1	24	11		38	13	24 35.1
24	10		22	46	24 30.6	24	11½		39	28	24 36.3
24	11½		23	24	24 32.4	24	11½		39	38	24 33.9
24	10½	6	23	25	+24 33.1	24	10	6	40	2	+24 33.7

* L. of double.

† (4).

‡ Small companion.

§ p. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
24	9	^{h. m. s.} 6 40 7	^{° ' "} +24 35.9	24	9	^{h. m. s.} 6 56 32	^{° ' "} +24 32.1
24	10	40 29	24 45.3	24	11	56 35	24 35.8
24	10½	41 14	24 33.8	24	10½	57 25	24 35.0
24	9½	41 21	24 37.2	24	10½	58 6	24 37.1
24	10½	41 37	24 34.0*	24	11	58 14	24 35.1
24	11	42 15	24 35.4†	24	9½	59 19	24 32.6
24	10	42 22	24 33.0	24	11	59 21	24 30.9
24	10	42 43	24 35.4	24	10	6 59 41	24 36.2
24	10½	43 39	24 31.5	24	11	7 0 16	24 36.0
24	10½	43 58	24 30.5	24	11	0 24	24 34.8
24	9	44 44	24 35.4:	24	11	8 27	24 43.9
24	10½	44 56	24 32.4	24	11½	8 32	24 43.0
24	10	45 7	24 38.2	24	8½	8 39	24 47.4
24	9	45 17	24 31.5	24	11½	8 47	24 42.2
24	10	45 40	24 31.1	24	11	9 4	24 36.9
24	9	46 3	24 45.9	24	10	9 13	24 39.7
24	9	46 32	24 43.3	24	10	9 29	24 40.8
24	9	46 33	24 30.0	24	11	9 50	24 38.7
24	9½	46 36	24 41.1	24	10	10 6	24 40.6
24	9½	47 37	24 41.4	24	10½	11 35	24 36.9
24	10	48 50	24 47.3:	24	11½	12 1	24 39.0
24	10½	49 9	24 33.6	24	11	12 2	24 35.8
24	9	49 16	24 46.8	24	10	12 5	24 44.5
24	10½	50 13	24 49.4	24	11	13 29	24 32.4
24	11½	50 51	24 31.5:	24	11½	14 3	24 30.7
24	9	50 57	24 43.0	24	9½	14 8	24 38.6
24	11	51 26	24 36.1	24	9½	14 17	24 38.7
24	10	52 56	24 41.0	24	10	14 34	24 46.5
24	10	53 12	24 35.8	24	9½	14 41	24 44.6
24	9½	53 37	24 42.9	24	10	15 11	24 34.5
24	9½	53 49	24 40.2†	24	11½	15 31	24 36.7
24	9½	54 18	24 48.8	24	11½	15 37	24 35.8
24	9½	54 34	24 35.6	24	10	15 51	24 32.7
24	11½	56 6	24 42.7	24	10	42 43	24 36.3
24	11	6 56 31	+24 30.8	24	11	7 42 45	+24 38.4

* A small star p.

† L. of double.

‡ Double.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .	
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$	
24	11	7	44	30	+24 32.6*	24	11	8	1	29	+24 32.8	
24	11½		44	40	24 38.1	24	10½		1	38	24 31.3	
24	10½		44	43	24 38.6	24	10½		2	0	24 38.8	
24	11		45	4	24 35.4	24	11		2	33	24 34.1	
24	11		45	30	24 31.8	24	9½		2	43	24 38.9†	
24	12		46	16	24 46.8	24	10		4	25	24 43.9	
24	9		46	44	24 44.0	24	11		4	31	24 37.8	
24	10½		47	59	24 45.6	24	12		4	37	24 43.3	
24	10½		48	1	24 33.9	24	12		4	37	24 48.3	
24	10		49	14	24 50.3	24	11½		28	31	15 22.3	
24	10½		49	31	24 49.0*	24	11½		28	41	15 22.2	
24	9		50	4	24 37.6	24	10		29	19	15 24.2	
24	9		50	5	24 43.2	24	10		29	52	15 12.1	
24	11½		50	24	24 33.1	24	11		30	50	15 23.9	
24	12		51	27	24 34.1	24	11		31	38	15 23.2	
24	10		52	19	24 43.9	24	10½		32	4	15 18.9	
24	9½		52	24	24 48.9	24	11½		32	8	15 18.2	
24	10½		52	35	24 42.7	24	11½		32	36	15 18.5	
24	10		52	43	24 33.1	24	9½		32	38	15 25.7	
24	9½		53	44	24 41.4†	24	9½		33	14	15 23.8	
24	10		53	49	24 32.9	24	11½		34	13	15 14.4	
24	9		53	55	24 38.8	24	10		34	37	15 30.6	
24	11½		55	39	24 42.0	24	9		35	22	15 13.2	
24	9½		55	47	24 40.0	24	11½		35	30	15 14.4	
24	11½		56	47	24 40.0	24	11		36	6	15 22.2	
24	8½		57	38	24 34.3	24	8		36	16	15 25.4	
24	9½		57	46	24 31.7	24	11		37	51	15 15.2	
24	10		58	31	24 28.0	24	11		37	55	15 14.9	
24	10½		58	54	24 35.5	24	9½		38	56	15 20.3	
24	11½		59	17	24 34.7	24	10		39	29	15 16.8	
24	11		59	23	24 34.1	24	9½		40	1	15 26.9	
24	11½		7	59	49	24 35.2	24	11½		41	41	15 12.3
24	10		8	0	31	24 35.5	24	10½		41	57	15 19.7
24	11			0	39	24 49.0	24	11		42	21	15 27.4
24	11		8	1	4	+24 49.5	24	11½		8	43	28 +15 14.3

* Double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	^{° ' "}			^{h. m. s.}	^{° ' "}
24	10	8 43 48	+15 23.4	24	11	9 4 55	+15 26.6
24	8	44 34	15 22.6*	24	10½	6 50	15 22.0*
24	8	45 33	15 23.5	24	10½	7 18	15 19.3
24	10	46 7	15 20.3*	24	9	7 48	15 30.4
24	12	46 59	15 21.3	24	11	8 22	15 21.4
24	11½	47 2	15 25.1	24	11	8 45	15 27.5
24	12	48 12	15 15.7	24	11	10 18	15 14.8
24	10	49 38	15 28.9	24	11½	10 25	15 23.1*
24	11½	50 21	15 24.6	24	10	10 26	15 26.6
24	12	50 24	15 16.1	24	12	10 40	15 27.7
24	11	50 37	15 30.1	24	9½	11 37	15 15.5
24	10½	50 56	15 19.0	24	11	11 39	15 13.4
24	11	51 25	15 28.4	24	9½	11 57	15 16.8
24	11½	51 30	15 23.7	24	10½	12 52	15 21.4
24	11½	51 39	15 23.6	24	12	13 15	15 18.9
24	10	52 53	15 23.2	24	10½	13 39	15 22.6*
24	10½	53 23	15 24.8	24	11	13 39	15 28.6
24	10½	53 50	15 18.3	24	9	14 7	15 31.7
24	10	54 21	15 15.7	24	12	15 21	15 18.5
24	11	54 30	15 28.5	24	12	15 58	15 16.7
24	11½	54 46	15 20.0	24	11	16 15	15 28.9
24	11½	55 45	15 14.7	24	11½	16 21	15 18.9
24	10½	56 5	15 26.7	24	10	16 56	15 22.1
24	9	57 16	15 23.2*	24	12	18 37	15 16.5
24	12½	8 58 49	15 19.7	24	12	18 57	15 25.3
24	11	9 0 2	15 16.3:	24	10	19 34	15 19.8*
24	12	0 16	15 14.1	24	9½	19 53	15 25.7
24	11	0 29	15 18.4	24	10½	21 22	15 20.1*
24	11½	0 41	15 22.2	24	11½	21 25	15 29.9
24	11½	1 38	15 30.6	24	11	21 39	15 23.3
24	11½	2 11	15 28.5	24	10½	22 2	15 17.1
24	11	2 48	15 23.3	24	10½	23 1	15 14.5
24	10	3 11	15 28.2	24	10	23 15	15 18.8
24	9½	4 7	15 22.3	24	9½	24 8	15 13.6
24	11	9 4 37	+15 27.6	24	11	9 24 42	+15 16.5

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
24	9	9 24 57	+15 13.2	24	10½	9 46 15	+15 13.7
24	10	25 20	15 22.1*	24	10½	47 30	15 29.9
24	11	25 41	15 16.2	24	11½	47 38	15 20.7
24	11	26 5	15 16.3	24	11	48 6	15 26.8
24	9	26 16	15 16.9	24	9½	48 38	15 29.9
24	11	26 36	15 21.5	24	11	49 19	15 28.1
24	11	28 33	15 19.1	24	11	49 37	15 27.9
24	12	28 37	15 18.2	24	10½	50 54	15 24.7
24	12½	30 21	15 25.1	24	11	51 2	15 30.6
24	10	30 25	15 25.7	24	10	51 8	15 28.5
24	11	30 49	15 13.6	24	11	51 13	15 23.3
24	11	31 17	15 23.7	24	11	51 58	15 12.7
24	10	31 59	15 32.7	24	11	52 20	15 14.5
24	11½	33 5	15 18.6	24	10	52 55	15 14.5
24	11½	33 28	15 30.2	24	10½	53 10	15 14.2
24	8½	34 13	15 28.7	24	10½	54 11	15 10.2
24	10½	35 22	15 18.9	24	8½	54 20	15 20.8*
24	10½	36 0	15 19.1	24	9	54 35	15 31.9
24	11½	36 33	15 13.9	24	10	56 16	15 23.4
24	10	36 34	15 16.1	24	11	56 31	15 13.8
24	11½	38 28	15 17.8	24	11	58 41	15 20.6
24	11	39 21	15 22.7	24	10	58 51	15 27.7
24	11½	39 32	15 27.3	24	11	58 59	15 28.9
24	9½	39 36	15 30.2	24	11½	59 16	15 26.6
24	10	39 50	15 22.1*	24	11	9 59 20	15 16.1
24	11	42 24	15 25.4	24	11½	10 0 58	15 17.7
24	11½	43 21	15 27.7	24	9½	2 38	15 17.5
24	11½	43 27	15 12.5	24	10	3 3	15 18.6
24	12	45 10	15 27.1	24	10	3 48	15 18.6
24	10½	9 45 31	+15 27.0	24	11	10 4 33	+15 21.6†

• (4).

† *s.* of double.

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,
 OF
 219 STARS NEAR THE ECLIPTIC,
 OBSERVED IN DECEMBER, 1854, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
18	11	0 23 39	+ 8 30.2	18	10	0 40 12	+ 8 29.4
18	10½	24 35	8 30.7	18	11	40 20	8 33.2
18	10½	24 44	8 43.9	18	9½	40 56	8 47.4
18	10½	25 8	8 43.1	18	10½	41 8	8 42.2
18	11½	25 43	8 41.3	18	11	41 51	8 45.2
18	11	26 34	8 30.7	18	9	42 50	8 44.9
18	11	27 7	8 31.6	18	11	43 16	8 41.9 †
18	10½	27 25	8 49.4	18	11½	43 25	8 45.7
18	10	28 4	8 40.3	18	10½	44 14	8 29.8
18	9½	28 33	8 35.6 *	18	10½	44 20	8 48.9
18	10	29 33	8 42.8	18	10	45 9	8 46.6
18	10	30 8	8 40.3	18	10½	45 22	8 31.5
18	11	31 9	8 32.8	18	11	46 6	8 28.0
18	11	31 14	8 31.7	18	11	47 12	8 41.8
18	10	31 19	8 38.3 *	18	10½	47 29	8 34.9
18	11	31 26	8 34.7	18	11½	48 54	8 35.7
18	11	32 37	8 44.5	18	11½	49 2	8 31.2
18	11	33 19	8 29.4	18	12	49 3	8 35.6 †
18	11	33 54	8 32.0	18	12	50 13	8 35.8
18	11½	35 3	8 38.9 *	18	11½	52 8	8 35.3
18	11½	35 13	8 32.7	18	11	52 9	8 40.7
18	10	35 48	8 42.1	18	9	52 13	8 26.1
18	9½	36 14	8 43.9	18	11	52 50	8 39.6
18	10½	36 38	8 35.2	18	10	53 8	8 46.3
18	12	36 45	8 34.1	18	11	53 18	8 43.9
18	10½	37 22	8 42.0	18	10½	54 2	8 44.3
18	11	38 22	8 33.8	18	10	54 10	8 28.7
18	12	38 51	8 41.7	18	10½	54 46	8 42.5
18	10	39 5	8 26.2	18	11	55 2	8 32.4
18	11	0 39 21	+ 8 39.0	18	11	0 55 18	+ 8 40.6

* (4).

† Small companion.

‡ S. p. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
18	11	^{h. m. s.} 0 55 52	+ 8 32.0	18	10	^{h. m. s.} 1 12 37	+ 8 39.4*
18	9	56 8	8 35.3	18	10	13 7	8 44.1
18	12	56 39	8 43.3	18	10	57 41	11 11.1†
18	11½	56 42	8 36.5	18	10	58 53	11 20.4
18	10½	57 12	8 42.8	18	10	1 59 51	11 12.8
18	9½	58 4	8 32.4	18	9½	2 2 44	11 10.8
18	11½	59 12	8 39.2	18	10	2 50	11 20.4
18	11	59 23	8 31.6	18	10½	3 14	11 8.5
18	12	59 44	8 32.1	18	11	3 36	11 17.7
18	11	0 59 46	8 34.4	18	11	4 2	11 21.2
18	11	1 0 45	8 33.2	18	11	4 34	11 14.2
18	11	0 48	8 45.8	18	10	4 55	11 14.1
18	11	0 53	8 44.4	18	10½	5 25	11 11.0
18	10	2 5	8 48.7	18	9½	5 35	11 14.2:
18	10½	2 27	8 43.3	18	12	5 46	11 10.0
18	11½	2 45	8 44.6	18	11	6 4	11 14.7
18	10½	3 20	8 32.8	18	11	6 43	11 21.9
18	10	4 7	8 41.8	18	11	7 4	11 23.6
18	10	4 19	8 42.1	18	11½	7 20	11 22.6
18	12	4 33	8 44.7	18	10½	7 23	11 20.2
18	10	5 1	8 49.4	18	11½	8 19	11 10.9
18	10½	6 3	8 30.9	18	11	8 44	11 19.1
18	9½	6 10	8 50.0	18	10½	9 13	11 16.6
18	11	6 21	8 38.7	18	10½	10 18	11 15.1
18	9½	6 51	8 43.1	18	11½	12 17	11 16.6
18	10	7 42	8 27.4	18	10	12 28	11 17.8*
18	12	7 56	8 28.2	18	10½	12 31	11 18.9*
18	11	8 27	8 49.5	18	11½	13 58	11 8.0
18	10	9 1	8 46.2	18	11	14 20	11 13.5
18	11	9 14	8 36.7	18	11½	14 37	11 11.8
18	11	9 20	8 42.6	18	11½	14 48	11 10.2
18	10½	10 30	8 44.2	18	8½	15 57	11 13.7
18	10½	10 55	8 35.7	18	12	16 7	11 14.1
18	11½	11 3	8 41.6	18	11	16 23	11 16.1*
18	10	1 11 28	+ 8 41.3	18	11	2 17 41	+ 11 24.8

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
18	9	2 17 54	+11 15.1	18	9½	2 58 10	+20 45.1
18	12	18 41	11 15.3	18	10½	58 50	20 46.0
18	12½	18 55	11 16.0	18	10	59 1	20 41.2
18	11	20 15	11 25.8	18	11½	2 59 25	20 44.4
18	11½	20 48	11 24.9	18	9½	3 0 12	20 38.1
18	10½	22 22	11 22.5	18	10	0 38	20 26.9
18	11½	22 59	11 13.4	18	10½	0 39	20 33.3
18	11	23 54	11 22.8	18	10½	1 37	20 31.7
18	10½	24 40	11 14.8	18	11½	1 56	20 32.8
18	11½	24 58	11 22.1	18	10	2 31	20 32.6
18	12	25 4	11 20.0	18	10	2 36	20 26.7
18	12	25 14	11 21.0	18	10	3 42	20 46.2
18	11	26 14	11 12.7	18	12	3 51	20 44.1
18	9	26 18	11 8.7	18	11½	4 5	20 36.9
18	11	26 29	11 24.1	18	12	4 13	20 40.8
18	11½	26 55	11 27.6	18	9	4 30	20 45.3
18	11½	27 22	11 22.6	18	10	5 5	20 42.1
18	10	27 24	11 26.6	18	10	5 29	20 35.4
18	9	27 59	11 26.8	18	11	5 40	20 31.6
18	11½	28 1	11 9.7	18	11½	7 16	20 36.8
18	11	28 8	11 14.2	18	11	7 24	20 28.7
18	11	29 11	11 13.8	18	10½	7 53	20 37.0*
18	9½	29 32	11 20.4	18	11½	8 59	20 29.1
18	12½	30 8	11 23.3	18	10	10 9	20 33.2
18	10	30 51	11 14.5	18	11½	10 19	20 31.6
18	11	31 20	11 18.8	18	10	11 29	20 32.7
18	10	31 50	11 15.3*	18	11	12 26	20 28.4
18	11	31 56	11 9.5	18	12	13 4	20 31.0
18	11	32 26	11 25.4	18	10	13 12	20 30.0
18	11½	32 56	11 25.8	18	10	14 11	20 44.9
18	11	33 55	11 23.7	18	11½	14 37	20 40.5
18	10½	35 19	11 24.3	18	11	15 5	20 41.1
18	11	56 27	20 37.4	18	11	15 49	20 42.7
18	12	56 28	20 28.6	18	10	16 0	20 41.1
18	10	2 57 51	+20 31.9	18	11	3 16 20	+20 44.2

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
18	10	^{h. m. s.} 3 17 43	^{° ' "} +20 29.0	18	11½	^{h. m. s.} 3 22 25	^{° ' "} +20 32.8
18	10	17 46	20 42.6	18	12	22 42	20 42.9
18	10	17 52	20 36.9*	18	11	22 48	20 44.1
18	10	18 39	20 35.0	18	9½	22 50	20 48.5
18	10½	19 56	20 28.5	18	12	24 2	20 40.7
18	10½	20 4	20 40.4	18	11	24 28	20 46.6
18	11	20 7	20 34.4	18	10½	25 8	20 30.6
18	11	21 16	20 41.6	18	11½	26 1	20 41.0
18	11	21 21	20 42.6	18	11½	3 26 17	+20 33.2
18	10½	3 22 16	+20 30.8				

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

2,164 STARS NEAR THE ECLIPTIC,

OBSERVED IN JANUARY, 1855, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
9	12½	^{h. m. s.} 0 55 35	^{° ' "} +11 13.3	9	10½	^{h. m. s.} 0 58 23	^{° ' "} +11 14.5
9	11½	55 44	11 12.8	9	11½	59 40	11 21.5
9	12½	55 52	11 13.7	9	12	0 59 50	11 22.1
9	11	56 31	11 11.4	9	10½	1 0 10	11 13.5
9	11	56 35	11 11.1	9	9½	0 11	11 20.7
9	10½	56 37	11 14.8	9	11½	1 47	11 18.2
9	12	56 42	11 11.8	9	12	2 13	11 12.0
9	10½	57 53	11 15.6	9	12	2 14	11 8.6
9	11½	58 8	11 9.5	9	10	2 46	11 18.2
9	11½	0 58 18	+11 13.5	9	11½	1 3 15	+11 20.4

*(4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
9	12	^{h. m. s.} 1 3 17	[°] +11 27.6	9	11	^{h. m. s.} 1 22 28	[°] +11 27.1
9	11½	5 4	11 10.0	9	10½	23 59	11 22.8
9	11½	5 35	11 20.3	9	12	24 15	11 20.4
9	11	5 37	11 10.2	9	12	24 20	11 20.8
9	11	7 0	11 10.5	9	10½	25 0	11 13.7
9	12	8 4	11 23.1	9	11	25 1	11 15.1
9	12½	8 8	11 21.5	9	10½	25 19	11 10.8
9	11	8 33	11 20.4	9	10½	25 45	11 15.1
9	11	8 52	11 25.3	9	11	26 48	11 9.2
9	10½	9 8	11 23.2	9	11½	26 54	11 11.8
9	9	9 42	11 30.1	17	11	27 6	14 10.1
9	11½	10 16	11 24.5	17	9	27 27	14 10.7
9	12	10 26	11 26.4	9	10½	27 43	11 18.3
9	11	10 47	11 9.3	9	10½	27 48	11 14.3
9	10	11 16	11 11.8	9	10	27 55	11 18.8
9	12½	11 28	11 11.3	17	11½	27 55	14 23.3
9	10	14 38	11 25.8*	17	9	28 16	14 14.5
9	11	14 41	11 15.9	17	9½	29 6	14 19.9
9	10½	14 43	11 15.4	17	10	29 26	14 9.8
9	10½	14 51	11 24.6	17	10	29 29	14 6.8
9	11	15 5	11 21.1	9	9½	29 37	11 12.9
9	10	16 35	11 23.8	17	11	30 15	14 17.1
9	11½	16 36	11 22.7	17	11	30 29	14 27.0
9	10½	17 3	11 22.6	17	12	30 35	14 21.9
9	11½	17 6	11 16.5	9	11	30 43	11 30.6
9	10½	17 35	11 23.0	17	10½	31 48	14 13.4
9	11½	18 36	11 12.1	17	10½	31 50	14 17.4
9	11	19 0	11 14.4	17	10½	32 10	14 13.6
9	11½	19 18	11 15.9	17	10½	32 30	14 22.2
9	11½	19 25	11 9.2	17	9½	32 31	14 15.9
9	11½	20 39	11 24.0	17	9½	32 34	14 25.0†
9	11½	20 45	11 17.4	9	11	32 36	11 11.7
9	12	21 9	11 26.7	17	11	34 10	14 21.3
9	11	21 13	11 16.9†	17	11½	34 10	14 24.0
9	9½	1 22 15	+11 16.7	17	9½	1 34 29	+14 23.6

* Small companion.

† (4).

‡ Double.

F 2

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
		h. m. s.	°				h. m. s.	°	
17	12	1 35 26	+14 14.8	17	11½	1 51 50	+14 26.0		
17	9	35 39	14 17.1*	17	11	51 55	14 21.7		
17	11	36 33	14 20.6	17	11	52 46	14 10.0		
17	10	37 46	14 17.0*	17	10	52 47	14 18.4		
17	10	37 50	14 14.8	17	10	52 52	14 17.3*		
17	10	37 51	14 15.2	17	10½	53 23	14 19.7		
17	10½	39 42	14 19.0*	17	11½	53 48	14 17.5		
17	12	39 57	14 10.0	17	11½	55 50	14 25.2		
17	10	40 0	14 15.9	17	11½	56 8	14 18.4		
17	10½	40 7	14 17.9	17	10	56 22	14 12.1		
17	11	41 6	14 21.9	17	10½	56 45	14 21.7		
17	11	41 34	14 8.9	17	11½	56 48	14 19.6		
17	11½	41 49	14 20.1	9	11	57 13	17 13.6		
17	10	42 40	14 22.0:	9	11½	57 33	17 24.5		
17	10½	43 24	14 12.5	9	12	57 34	17 15.1		
17	10	43 36	14 11.2	9	10	57 48	17 11.0		
17	10	43 47	14 10.3	17	10	58 12	14 20.5*		
17	10½	44 15	14 14.1	17	10½	58 38	14 11.6		
17	9½	44 31	14 28.0	17	10½	58 41	14 16.0		
17	9½	44 34	14 20.4	9	10	58 53	17 13.2		
17	11½	44 37	14 20.3	17	10	59 1	14 20.6		
17	10½	45 1	14 16.4*	9	11	59 5	17 10.7†		
17	10½	47 8	14 19.5	17	12	59 51	14 23.0		
17	11	47 17	14 13.7	9	10	59 52	17 23.6		
17	9½	47 18	14 15.4	9	11½	59 52	17 24.7		
17	9	47 38	14 21.4	17	9½	1 59 56	14 25.0		
17	12	47 40	14 20.1	9	11½	2 0 4	17 24.1		
17	9	48 1	14 21.9†	17	10	0 13	14 22.3		
17	10	49 27	14 14.3	9	10	0 21	17 23.9		
17	11	49 46	14 16.9	17	10	0 23	14 24.9		
17	9½	49 55	14 18.4	9	11½	0 43	17 21.0		
17	11	50 31	14 15.1	9	11	1 0	17 16.9		
17	11½	51 24	14 24.9	9	10	1 32	17 17.2		
17	12	51 39	14 24.7	9	11½	1 55	17 9.9		
17	11½	1 51 47	+14 19.7	17	11	2 2 25	+14 22.4		

* (4).

† Small companion.

‡ L. of double.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$
9	11	2	2	32	+17 9.4	9	10	2	15	22	+17 23.3 :
9	11		3	8	17 28.1	9	11 $\frac{1}{2}$		15	40	17 12.8
9	10		3	11	17 12.1	9	11 $\frac{1}{2}$		15	42	17 15.2
17	12		3	12	14 27.3	9	10		15	45	17 11.6
9	12		3	18	17 23.9	9	11		15	56	17 13.5
9	11		4	13	17 24.6	9	10		16	33	17 12.8
9	9 $\frac{1}{2}$		4	19	17 18.9	9	10		16	45	17 12.6
9	11 $\frac{1}{2}$		4	22	17 24.8	9	10		17	0	17 15.2
9	11		5	35	17 20.2	9	10		17	6	17 11.4
9	11 $\frac{1}{2}$		5	51	17 23.4	9	9 $\frac{1}{2}$		17	45	17 18.5
9	12		5	59	17 25.3	9	12 $\frac{1}{2}$		17	58	17 26.4
9	10 $\frac{1}{2}$		6	2	17 21.1	9	12		17	59	17 28.0
9	11 $\frac{1}{2}$		6	53	17 22.4	9	12		19	7	17 25.1
9	10		6	54	17 25.9 :	9	12		19	7	17 26.9
9	12		8	12	17 10.7	9	10 $\frac{1}{2}$		20	11	17 15.2
9	12		8	15	17 15.8	9	11 $\frac{1}{2}$		20	48	17 14.5
9	10 $\frac{1}{2}$		8	48	17 15.3	9	10		20	58	17 15.9
9	11 $\frac{1}{2}$		9	11	17 14.6	9	10		22	15	17 19.0
9	9 $\frac{1}{2}$		9	18	17 14.0	9	12		22	32	17 22.0
9	11 $\frac{1}{2}$		9	33	17 14.7	9	11		22	33	17 19.0
9	11 $\frac{1}{2}$		9	40	17 12.5	9	12		22	49	17 27.7
9	11 $\frac{1}{2}$		9	56	17 14.5	9	12 $\frac{1}{2}$		22	58	17 22.6
9	10 $\frac{1}{2}$		10	13	17 13.7	9	10		23	37	17 10.3
9	11		10	24	17 20.7	9	9 $\frac{1}{2}$		24	39	17 21.9
9	11 $\frac{1}{2}$		10	37	17 13.1	9	11		24	49	17 23.1
9	10 $\frac{1}{2}$		10	45	17 16.5	9	10 $\frac{1}{2}$		24	57	17 23.9
9	11		11	43	17 12.2	9	9 $\frac{1}{2}$		26	23	17 20.1
9	11 $\frac{1}{2}$		11	57	17 31.0	15	11 $\frac{1}{2}$		26	36	18 22.2
9	11		12	46	17 16.0	15	12		26	37	18 26.1
9	12 $\frac{1}{2}$		12	57	17 16.4	9	10		26	38	17 26.0
9	10		13	8	17 15.3	15	12		26	44	18 23.3
9	12		13	10	17 26.8	15	11		27	0	18 27.1
9	11		13	58	17 27.6	15	10 $\frac{1}{2}$		27	18	18 26.3
9	10 $\frac{1}{2}$		14	14	17 13.4	9	11		27	46	11 23.7
9	11	2	15	15	+17 25.3	15	11	2	27	58	+18 20.5

APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.				h. m. s.	
15	10	2 28 1	+18° 21.7	15	10	2 34 14	+18° 24.9
15	9	28 36	18 20.3*	15	11½	34 22	18 25.1
9	11½	28 39	17 11.3	17	9½	34 32	19 2.4
9	11½	28 53	17 13.7	9	9	34 43	17 24.2
17	9½	28 58	18 56.9*	15	10½	35 20	18 18.3*
17	11½	29 19	18 49.0	17	10	35 21	18 54.7
17	11	29 22	18 52.3	17	12	35 30	18 51.6
15	10½	29 36	18 30.7	17	10	35 45	18 53.6
9	11	29 38	17 10.8	9	11½	36 16	17 28.0
15	10½	30 12	18 28.1	17	10	36 24	18 57.1*
15	12	30 29	18 26.1	17	10	36 46	18 58.7*
9	10	30 35	17 28.4	9	10	36 47	17 7.3
9	12	30 37	17 22.9	15	11	36 52	18 18.7
17	12	30 39	19 1.0	9	10	36 56	17 8.7
9	11	30 43	17 19.9	15	10½	36 56	18 21.8
15	9½	30 54	18 27.4	15	11	36 59	18 27.0
9	12	30 55	17 24.4	17	9½	37 6	19 4.5
17	10	31 24	18 50.3	15	11	37 23	18 19.5
15	11½	31 25	18 25.2	15	11	37 27	18 23.3
17	11	31 36	18 55.7	17	10½	37 29	19 1.0
17	9½	31 41	18 52.5	17	11	38 27	18 54.4 :
9	10	32 9	17 22.6	17	10	38 29	18 52.4
9	10	32 9	17 25.5	9	11	38 54	17 11.1
15	11½	32 14	18 21.1*	17	11½	38 56	18 50.3
17	10	32 15	19 3.9	9	11	39 4	17 15.4
9	10½	32 28	17 13.5	9	10½	39 14	17 21.8
17	11½	32 33	18 50.2	17	10	39 14	18 55.9*
9	10½	32 46	17 10.9	15	11½	39 19	18 26.2†
15	10½	32 51	18 23.8	17	11½	39 27	18 49.7
17	11	33 40	19 4.6	17	11	39 33	18 52.2
15	10	33 50	18 13.9	17	11½	39 33	18 49.8
17	11	33 52	18 59.1*	15	11½	39 35	18 27.2
9	11½	33 54	17 14.8	9	11	40 2	17 14.5
17	11½	34 1	19 4.0	17	9½	40 26	18 49.3
17	10½	2 34 8	+19 4.9	15	10½	2 40 32	+18 14.1

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
9	11 $\frac{1}{2}$	2 40 33	+17 26.1	9	11	2 45 14	+17 21.3
17	10	40 42	18 53.6	9	11	45 17	17 24.9
15	11	40 44	18 15.5	17	12 $\frac{1}{2}$	45 17	18 55.3
15	11 $\frac{1}{2}$	40 45	18 26.2	9	11 $\frac{1}{2}$	45 21	17 12.1
15	10	40 51	18 26.2	17	12	45 51	19 2.7
9	10	41 6	17 27.3	15	9 $\frac{1}{2}$	46 10	18 14.0
17	11	41 17	18 54.9	17	10	46 28	19 5.6
17	10 $\frac{1}{2}$	41 30	19 6.2	15	10	46 40	18 26.5
15	12	41 38	18 26.6	9	11	46 54	17 24.3
9	11	41 42	17 21.4	15	9 $\frac{1}{2}$	46 54	18 15.7
9	9 $\frac{1}{2}$	41 49	17 24.2	17	11 $\frac{1}{2}$	47 1	18 55.2
17	11	41 52	18 53.9	9	9 $\frac{1}{2}$	47 15	17 25.1
9	11	42 3	17 25.7	15	9 $\frac{1}{2}$	47 37	18 16.5
15	10	42 15	18 10.0	9	11	48 4	17 22.0
17	9 $\frac{1}{2}$	42 20	18 50.9	15	10 $\frac{1}{2}$	48 14	18 20.3
17	12	42 28	18 51.1	15	10 $\frac{1}{2}$	48 26	18 23.8
15	11	42 42	18 16.9	9	11	48 28	17 14.0
15	10	42 47	18 10.8	15	11	48 30	18 12.1
9	11	42 56	17 12 1:	15	11 $\frac{1}{2}$	48 35	18 11.6
15	11	42 59	18 14.5	17	11 $\frac{1}{2}$	48 59	18 49.5
9	11 $\frac{1}{2}$	43 6	17 15.1	9	11	49 0	17 14.1
17	10 $\frac{1}{2}$	43 11	19 1.5	15	11	49 37	18 14.6†
17	12	43 21	19 1.7	17	10	49 40	18 53.7
9	11	43 36	17 15.3	17	10 $\frac{1}{2}$	49 44	18 57.0
15	10	43 41	18 31.4	9	11	49 47	17 14.0
17	12	43 48	19 0.7	17	11	49 53	18 51.8
17	9	43 59	18 49.1	15	11	49 57	18 18.0:
9	11 $\frac{1}{2}$	44 5	17 13.5	9	10 $\frac{1}{2}$	50 16	17 11.3
9	11	44 13	17 15.9	17	8	50 25	18 58.4‡
9	10	44 13	17 27.4	17	8 $\frac{1}{2}$	50 33	19 7.4
15	11	44 32	18 26.7	15	10	50 36	18 16.6
15	11	44 34	18 20.4*	15	10	50 36	18 12.6
17	10	44 45	18 50.9	15	10	50 39	18 16.2
15	11	44 59	18 25.4	15	10	50 59	18 16.2
17	12	2 44 59	+18 48.6	17	12 $\frac{1}{2}$	2 51 2	+18 59.4

* Double.

† L. of double.

‡ (4).

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
		h. m. s.		°			h. m. s.		°
17	11	2 51 12	+19	4.3	15	11½	2 57 6	+18	29.0
15	10	51 30	18	11.4	9	10	57 53	17	16.5
15	10	51 47	18	18.4	15	10½	57 59	18	23.1
17	12	52 15	18	51.4	15	11	58 2	18	25.6
17	11	52 35	19	0.9	9	11½	58 5	17	13.6
9	11½	52 45	17	20.1	9	11	58 6	17	11.4
15	11	53 1	18	9.2	9	11	58 20	17	15.8
17	9	53 33	18	46.8	9	11	58 26	17	13.4
9	11	53 35	17	16.0	17	9	58 27	19	2.8
15	9½	53 50	18	12.1	17	9½	58 37	18	59.1
15	10	53 51	18	29.4	9	11	59 7	17	17.5†
17	9½	53 59	18	45.5	17	10½	59 7	18	59.2*
17	10½	54 17	19	4.0	17	9½	2 59 47	18	53.2
15	10½	54 36	18	27.1	9	10	3 0 22	17	26.3
17	11½	54 37	18	51.5	9	10	0 36	17	23.9
9	11½	54 56	17	14.5	17	10	0 39	19	2.9
9	10	55 1	17	12.8	17	10½	0 43	19	2.7
17	11	55 15	19	1.5	17	11	0 50	18	53.5
15	11	55 19	18	17.0	15	12½	0 57	18	26.1
17	11	55 19	18	53.3	15	10	1 6	18	27.3
9	11½	55 21	17	25.6	9	11½	1 32	17	18.3*
17	9½	55 38	18	49.0	17	10½	1 32	19	6.2
15	12	55 45	18	15.9	15	11½	1 36	18	23.5
15	11	55 47	18	17.4	15	11½	1 46	18	14.0
15	11	56 10	18	23.4	17	11½	2 8	18	53.2
9	10	56 15	17	18.5	17	11½	2 11	18	56.3
9	11	56 32	17	25.6	9	10	2 13	17	18.4*
9	12	56 34	17	20.1	9	10½	2 14	17	25.8
9	10	56 37	17	23.2	17	11½	2 18	18	49.3
17	10½	56 38	18	53.5	17	11	3 25	18	57.3
9	11	56 46	17	24.1	15	11	3 45	18	26.2
17	10	56 53	18	56.6*	17	11	3 53	19	3.1
15	11	56 56	18	24.6	15	11	3 54	18	19.6
17	11½	56 59	19	6.6†	9	11½	3 59	17	19.7*
15	12	2 57 1	+18	27.5	15	9½	3 4 3	+18	22.6

• (4).

† L. of double.

‡ Close double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	10 $\frac{1}{2}$	^{h. m. s.} 3 4 30	[°] +18 47.2	17	10	^{h. m. s.} 3 11 45	[°] +18 52.9
9	11	4 31	17 9.3	17	12	12 16	18 50.4
15	12	5 0	18 27.6	17	11	12 54	19 5.4
17	12	5 8	19 3.0	17	11	13 19	19 5.6
9	12	5 22	17 25.5	17	10	15 2	18 48.7
17	10 $\frac{1}{2}$	5 26	19 5.2	17	11 $\frac{1}{2}$	15 5	18 54.4
17	10	5 30	19 2.1	17	10 $\frac{1}{2}$	15 14	18 54.2
17	11	5 32	19 3.8	17	12	15 28	18 51.7
17	11	5 37	19 1.2	15	12 $\frac{1}{2}$	19 4	17 3.5
9	11	5 48	17 27.4	15	11	19 23	17 0.4
9	12	5 49	17 26.0	15	11 $\frac{1}{2}$	19 30	17 0.1
17	11	5 54	19 2.4	15	10	20 51	17 0.9
9	9	6 18	17 27.9*	15	12	21 4	17 2.8
9	10 $\frac{1}{2}$	6 53	17 23.9	15	10 $\frac{1}{2}$	21 31	17 4.0
17	9 $\frac{1}{2}$	6 57	19 10.4	15	10 $\frac{1}{2}$	21 53	16 59.2†
9	11	7 15	17 22.4	15	10 $\frac{1}{2}$	22 46	17 1.8
17	11	7 17	19 3.7	15	11	23 3	16 56.3
9	10 $\frac{1}{2}$	7 25	17 16.5	15	11 $\frac{1}{2}$	23 31	17 0.7
17	12	7 29	19 3.6	15	9	23 56	17 6.2
9	11	7 34	17 24.7	15	10 $\frac{1}{2}$	24 51	16 55.9
9	10 $\frac{1}{2}$	7 40	17 17.0	15	10 $\frac{1}{2}$	24 54	16 50.9
9	10 $\frac{1}{2}$	7 45	17 24.7	15	11 $\frac{1}{2}$	26 46	16 55.2
17	11	8 2	18 54.4	16	11	27 12	23 6.4
17	10	8 4	18 58.5	17	11 $\frac{1}{2}$	27 13	24 2.3
17	9	8 9	18 49.9†	17	11 $\frac{1}{2}$	27 20	24 6.8
9	12	8 47	17 28.2	16	12	27 23	23 8.1
17	10	8 49	18 55.0	15	11	27 30	16 51.6
17	11 $\frac{1}{2}$	9 10	19 3.4	17	11	27 45	24 7.3
17	11	9 19	19 3.6	17	11	27 47	23 53.9
17	10	9 27	19 0.2	17	9 $\frac{1}{2}$	28 1	24 8.0
17	10 $\frac{1}{2}$	10 12	18 52.9	16	12	28 14	22 55.1
17	10	10 24	18 59.2	16	12	28 34	22 52.1
17	9 $\frac{1}{2}$	10 35	18 55.1	17	11	28 37	23 59.8
9	11 $\frac{1}{2}$	10 51	17 21.3	16	12	28 55	23 4.2
9	11	3 11 44	+17 31.3 :	15	11	3 29 19	+16 51.6

* Small companion.

† L. of double.

‡ (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
16	12	3 29 22	+23 2.4*	16	11	3 35 9	+23 4.0
16	11	29 25	23 6.2	16	11½	35 31	23 11.4
17	11½	29 35	23 57.2†	15	11	35 54	16 57.3
16	11½	29 46	23 7.6‡	16	10	35 56	23 6.8
15	9	29 55	17 6.3	16	12	36 34	22 57.3
17	10	30 3	24 4.5	16	12	36 36	22 55.3
17	9½	30 16	23 52.5	15	11	36 43	17 3.8
15	11	30 23	16 50.8	16	11½	37 0	22 57.5
16	10	30 39	22 56.2	16	10	37 19	22 52.1
15	11	31 2	16 50.2	16	10	37 26	23 1.0
15	9	31 5	16 57.3†	16	10½	37 33	22 51.1
17	11½	31 28	24 3.7	15	11	38 11	16 46.3
17	11½	31 30	24 0.3	15	12	38 23	16 50.0
17	11½	31 37	23 59.9	16	9	38 50	23 4.6
16	11	32 0	22 55.8	15	10½	38 54	16 52.9
17	9½	32 2	23 58.0†	17	9½	39 18	23 51.1
16	11½	32 4	22 58.0	15	10½	39 39	17 6.5
16	10½	32 8	22 57.1	16	12	39 46	23 5.0
16	11	32 14	22 56.6	17	11½	39 47	23 51.9
15	9½	32 20	16 53.2	15	11	39 52	16 49.4
17	10	32 49	23 50.8	16	11	39 54	23 3.7
15	12	33 7	17 4.6	16	10½	40 20	22 56.5
16	11½	33 14	23 6.2	16	10½	40 41	22 55.1
15	12	33 15	17 7.8	15	9½	40 52	17 0.3
15	12	33 26	17 5.3	16	11	41 0	23 4.2
16	11½	33 33	23 2.0	15	10½	41 6	17 0.2
16	11	33 38	23 4.6	15	9½	41 10	17 5.3
17	10½	33 42	24 3.3	15	11½	41 13	17 2.2
15	12	33 43	16 52.1	16	11	41 33	23 6.8
16	11	34 1	23 3.2	15	9½	41 57	17 4.4
17	11	34 6	24 3.7	16	10	42 10	22 58.2
17	11½	34 10	24 0.2	17	9	42 14	24 8.1
15	11½	34 45	17 5.5	15	11½	42 24	16 54.7
16	11	34 46	23 3.5	17	9	42 30	24 3.9
15	11½	3 34 47	+17 2.9	16	10½	3 42 35	+22 48.6

* L. of double.

† (4).

‡ An 11½ s.p.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
15	11	3 42 45	+16 57.0	16	11 $\frac{1}{2}$	3 48 26	+22 51.9
16	10	43 13	23 8.0	17	11	48 28	24 7.3
16	11	43 17	22 51.0	16	11	48 30	22 50.5
17	11	43 21	23 56.7	15	11 $\frac{1}{2}$	48 35	16 48.8*
15	11	43 33	17 5.7	17	11 $\frac{1}{2}$	48 43	24 7.3
15	11	43 34	17 3.5	17	11 $\frac{1}{2}$	48 51	24 4.0
16	12	43 46	23 8.0	16	10 $\frac{1}{2}$	49 33	23 2.8
17	11	43 52	23 55.2	16	11	49 37	23 6.2
16	12	44 1	23 5.9	16	10	49 41	23 6.9
15	10 $\frac{1}{2}$	44 2	17 0.9	17	11 $\frac{1}{2}$	49 50	24 5.4
16	10	44 24	23 2.9	17	11	49 53	24 2.0
16	12	45 0	23 1.3	15	12	50 3	16 55.7
17	10 $\frac{1}{2}$	45 2	23 53.2	15	11	50 6	16 55.7
17	10	45 10	23 54.6	17	11 $\frac{1}{2}$	50 6	24 4.0
17	11 $\frac{1}{2}$	45 12	23 53.0	15	11 $\frac{1}{2}$	50 10	16 51.4
16	12	45 13	23 7.9	16	11 $\frac{1}{2}$	50 10	23 2.8
17	10 $\frac{1}{2}$	45 28	23 54.7	17	10	50 23	23 56.7
16	10 $\frac{1}{2}$	45 29	23 8.5	17	11 $\frac{1}{2}$	50 24	23 53.1
16	12	45 36	23 5.0	15	10	50 36	16 57.2
15	12	45 41	17 0.8	17	11	51 3	23 51.3
17	10	45 59	24 7.5	15	11	51 10	16 52.6
17	10 $\frac{1}{2}$	46 16	24 0.0	16	11	51 24	23 6.3
16	10	46 17	23 9.0	16	11	51 43	23 1.0
17	10	46 20	24 10.7	17	11 $\frac{1}{2}$	51 47	23 55.7
15	10	46 25	17 8.7	17	10 $\frac{1}{2}$	52 6	23 52.6
16	10 $\frac{1}{2}$	46 31	23 11.2	17	10 $\frac{1}{2}$	52 16	23 52.2
15	10 $\frac{1}{2}$	46 44	17 10.6	17	11	52 17	24 6.1
17	10	47 0	23 55.0	15	11 $\frac{1}{2}$	52 19	16 54.6
17	9 $\frac{1}{2}$	47 7	23 54.4	15	11 $\frac{1}{2}$	52 41	17 2.1
15	12	47 32	17 5.5	17	9	53 8	24 3.7
16	11	47 32	22 53.6	16	10	53 10	22 55.2
15	11 $\frac{1}{2}$	47 36	17 2.1	17	12	53 14	23 52.0
16	11 $\frac{1}{2}$	47 36	22 53.9	15	9 $\frac{1}{2}$	53 29	16 52.4
17	11 $\frac{1}{2}$	47 46	23 54.2	15	11 $\frac{1}{2}$	53 47	16 55.5
15	10 $\frac{1}{2}$	3 47 49	+16 49.7	17	10	3 54 2	+23 59.4†

* A 12th close f.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
15	10	3 54 4	+16 55.3	16	12	3 59 56	+22 54.6
17	12	54 11	24 6.3	15	11	4 0 1	16 52.8
15	11½	54 26	17 4.9	16	10	0 6	22 52.6
17	11	54 29	23 50.3	16	11½	0 18	22 53.8
15	10	54 48	16 51.2	15	10½	0 19	16 49.8
15	12	55 26	17 5.0	9	9½	0 21	24 53.3
16	11	55 39	23 5.4	17	10½	0 39	24 3.5
17	10½	55 45	24 8.1	9	11	0 41	25 4.2
17	11½	55 48	23 50.1	9	11	0 44	25 2.6
16	11	56 24	22 54.1	15	9½	0 57	17 6.1
17	11½	56 39	23 50.7	16	10½	1 0	23 4.0
17	9½	56 42	24 3.6	16	11½	1 3	22 51.5
17	11	56 46	23 56.9*	17	9	1 4	24 5.2
16	11	56 47	22 48.7	16	11½	1 5	22 52.1
17	9	56 49	23 50.0	17	11	1 5	24 2.1
17	11	57 17	23 59.5†	17	11	1 10	24 2.4
16	11	58 17	23 8.7	9	10	1 34	25 6.4
9	12	58 19	25 7.6	16	10	1 47	22 57.6
17	10½	58 25	23 51.2	15	11½	1 58	16 54.7
9	10	58 26	25 10.6	15	11	2 1	17 3.5
9	11½	58 34	25 1.8	15	11	2 5	17 3.1 :
15	11	58 35	17 1.1	16	11½	2 5	22 51.7
16	11	58 40	23 5.7	9	11	2 10	25 3.9
16	11	58 41	23 9.6	17	11½	2 19	23 52.2
17	10	58 54	23 55.2	16	11	2 20	22 58.8
9	11	59 4	24 52.9	17	11½	2 24	23 55.1
16	11	59 12	22 52.0	9	11½	2 31	24 57.6*
17	11½	59 22	24 3.3	17	11½	2 43	24 4.0
9	10½	59 26	24 55.9	17	9	2 54	24 3.3
17	11	59 27	24 2.7	17	11½	2 58	24 4.0
16	12	59 32	22 52.7	9	11½	3 7	24 53.9
17	10½	59 32	24 10.3	9	11½	3 22	24 52.7
9	12½	59 40	24 54.5	9	10	3 31	24 56.8
15	11½	59 51	16 52.3	17	10	3 39	23 57.7
17	9½	3 59 54	+23 49.2	16	11½	4 4 28	+22 58.2

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
16	11½	^{h. m. s.} 4 4 31	[°] +22 51.6	9	11	^{h. m. s.} 4 8 14	[°] +25 0.0*
16	11½	4 33	22 58.9	9	11½	8 17	24 50.3
15	11	4 48	16 46.7	16	12	8 18	23 6.2
15	11½	4 52	16 57.9	9	11	8 21	24 50.7
9	10	4 56	24 52.8	16	11	8 25	23 6.3
17	11	5 7	23 54.6	16	10	8 27	23 1.0
17	12	5 15	23 51.1	15	9½	8 38	17 4.8
17	12	5 23	23 53.7	16	10	8 39	23 6.5
9	11	5 31	24 47.5	17	11½	9 7	23 56.6
9	11	5 32	24 47.8	16	10	9 12	22 54.6
17	11	5 32	23 59.5	17	11½	9 23	23 55.9
9	11½	5 39	24 54.6	17	10½	9 32	24 2.1
15	10½	5 40	17 6.2	15	11	9 35	17 1.3
15	12	5 44	17 0.7	17	11	9 35	23 56.2
15	12	5 49	17 1.8	15	10½	9 44	17 3.1
15	10½	5 51	17 0.3	9	11	9 47	24 51.9
16	12	5 55	22 52.4	17	10	9 58	23 56.2
16	12	6 1	22 57.7	16	11	9 59	23 6.1
16	9½	6 2	22 52.5	15	11	10 4	17 0.2*
17	9	6 6	23 55.4	16	10½	10 9	22 58.9
9	10	6 34	25 1.1	17	10	10 9	23 53.8
17	10½	7 2	23 55.0	9	10½	10 15	24 49.5
9	9½	7 4	25 8.2	16	11½	10 48	22 51.6
16	11½	7 16	22 51.0	16	11	10 49	22 55.8
17	11	7 22	23 56.6	9	10	10 51	24 47.1
17	11	7 27	23 52.8	15	12	10 57	16 55.5
17	10½	7 36	23 52.6	15	11	10 58	16 56.1
16	12	7 38	22 52.4	9	10½	11 15	25 6.0
17	12	7 45	24 0.8	17	12	11 22	23 54.2
9	11	7 50	24 52.0	9	11	11 26	24 47.1
15	12	7 57	16 54.3	17	11	11 28	23 55.3
15	11	8 5	16 57.4	17	12½	11 30	23 51.9
15	11½	8 8	16 53.2	15	11½	11 34	16 52.1
15	11	8 10	16 51.3	17	12½	11 43	23 54.4
9	11½	4 8 12	+24 55.5	9	12	4 11 49	+24 48.0

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
16	10	4 11 51	+22 56.9	17	11½	4 17 50	+24 3.4
15	11½	11 55	16 55.5	9	12	17 53	24 53.0
15	10½	12 15	17 7.9	15	11½	17 56	17 3.2
9	11	12 16	25 4.8	17	11	17 57	23 52.0
9	11	12 23	25 8.2	15	11	18 0	16 49.2§
16	12	12 24	23 3.6	17	10	18 9	24 1.7
16	11½	12 28	22 54.4	16	11	18 11	23 4.9
17	11½	12 50	23 47.9	15	11½	18 12	17 2.3
15	11½	13 10	17 6.3	9	9½	18 24	25 4.7
15	12	13 12	17 5.3	9	9	18 40	25 4.3:
15	11½	13 13	17 0.2	17	8	18 45	24 5.9
17	11½	13 20	24 7.9	15	11	18 48	17 4.2
17	11½	13 40	23 56.1	9	12	18 53	25 6.0
9	10½	13 44	24 49.9	15	11	19 19	17 5.7
15	9	14 6	17 0.0*	16	9	19 33	22 49.4
9	10	14 11	24 54.2†	17	11½	19 40	23 50.4
16	11	14 11	23 4.1	15	11	19 48	16 48.9
17	11	14 12	24 3.2	9	12	20 0	24 57.2
16	11	14 17	23 9.1	9	12	20 3	24 54.2
17	12	14 19	24 2.7	9	11½	20 9	25 6.3
9	11	14 24	25 5.5	15	8	20 10	16 56.9*
16	11½	14 30	23 3.5	17	11	20 11	23 55.0
17	11	14 41	23 55.9	16	10	20 39	23 5.9
17	12	15 26	24 0.7	16	12	20 40	23 9.0
16	12	15 30	22 50.9	16	11½	20 43	23 5.6
16	11½	15 35	22 55.1	9	9½	21 0	25 6.9
9	10½	15 41	25 3.5	15	11	21 1	16 53.4
17	10	15 44	24 0.6	15	11	21 5	17 0.3
15	11	16 21	17 4.1	15	11½	21 12	16 59.9
16	11	16 22	23 2.6	9	10	21 19	24 53.3
9	11	16 24	25 3.0	17	12½	21 25	24 6.9
15	11½	16 34	16 55.6†	15	11½	21 34	16 53.3
9	12	16 45	25 2.4	15	11½	21 46	16 53.2
9	12	16 50	25 2.9	16	11½	21 46	22 57.5
17	11	4 16 51	+23 57.0	9	11	4 21 57	+25 8.8

* (4).

† Double.

‡ L. of double.

§ A 9th J.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
9	11	4 22 1	+25 1.8	9	11	4 29 46	+24 55.4
15	11	22 3	17 4.3	15	11½	29 48	16 54.7
9	11	22 5	25 7.6	9	11½	29 51	24 50.8
15	11	22 11	17 1.4	15	11	29 53	16 56.6
15	11½	22 22	17 5.1	15	12	30 11	17 5.4
9	12	22 55	24 50.1	15	11	30 24	16 52.6
9	10	23 33	24 47.8	16	11½	30 50	23 9.4
15	11	23 41	16 57.2	15	10½	31 25	16 54.1
15	12	24 5	16 54.3	15	12	31 32	16 54.5
15	12½	24 26	16 53.9	16	11½	31 36	22 52.4
9	11½	24 31	25 1.3	15	9	31 53	17 5.5
15	12½	24 39	16 53.7	15	11	32 4	17 1.1
9	11½	24 50	25 6.6	15	11½	32 17	16 59.7
15	11	25 3	17 7.1	17	10	32 19	26 6.3
16	10	25 6	22 59.7	16	11½	32 23	22 49.2
16	10	25 19	23 7.7	17	11	32 38	26 8.1
15	10½	25 46	17 5.8	17	11	32 43	26 1.4
15	11½	25 50	16 50.6	17	11½	32 45	26 4.0
15	11	25 51	17 0.7	16	11	32 57	23 6.5
9	10	25 57	25 7.0	17	11	33 9	26 2.1
16	12	26 54	23 4.7	17	11	33 16	26 2.2
15	11½	27 0	16 55.4 *	9	11½	33 46	24 59.3
15	12	27 14	16 50.0	15	12	33 55	17 2.0
9	11	27 19	25 8.3	15	11½	33 59	17 3.0
9	10	27 30	24 58.5 †	15	11½	34 11	17 3.2
16	11	27 55	22 54.0	9	11½	34 44	25 3.1
15	11	28 4	16 49.6	9	10½	34 53	25 3.1
9	11½	28 16	25 6.0	16	10½	34 54	23 4.0
9	10	28 17	24 56.3	17	10	35 0	26 6.4
9	10½	28 37	25 6.5	9	11	35 6	25 6.8
16	10	28 37	23 2.4	17	10	35 12	26 5.9
15	11	28 51	17 1.7	15	10½	35 14	17 7.9
15	11	29 7	17 4.8	17	11½	35 15	25 58.0
17	11½	29 16	25 52.4	17	11	35 18	25 54.0
16	11	4 29 31	+22 59.2 †	15	10½	4 35 28	+17 2.0

• Double.

† (4).

Days Obs.	Mag.	α .	δ .	Days Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
15	12½	4 35 32	+17 7.2	9	11½	4 42 14	+25 4.1
17	11	35 40	25 55.8	17	12	42 35	25 57.2
15	11½	35 56	17 2.8	9	11	42 38	25 7.6
9	11	35 58	25 0.6	17	10	42 43	25 50.8
9	11½	36 26	24 55.9	16	11	42 45	23 3.7
15	12½	36 28	17 4.3	17	11	42 59	25 52.0
17	10	36 36	26 2.4	16	12	43 4	23 5.7
17	9	36 49	26 1.9	17	11	43 9	25 52.2
15	10½	36 53	17 7.1	16	10½	43 11	22 51.7
17	11½	36 58	26 3.1	9	9½	43 16	24 52.1
17	10½	37 4	26 3.1	9	10½	43 42	25 2.8
9	11	37 9	25 3.5	16	10	43 43	22 52.8
16	11½	37 28	23 9.5	17	10½	43 47	26 4.9
17	9½	37 30	26 1.4*	9	10½	44 2	24 55.8†
16	12	37 33	23 7.5	17	11	44 5	25 53.6
16	11	37 51	23 8.9	17	11	44 41	25 53.5
16	10	38 24	23 7.3	9	9½	44 49	24 54.3
17	10	38 28	25 52.6	17	10½	44 55	26 6.6
9	12½	38 44	24 53.3	17	11	45 9	26 7.4
9	10	39 5	24 55.2	9	9½	45 11	25 1.2
17	10	39 12	25 50.4	17	11	45 13	26 3.1
17	11½	39 17	25 56.7	9	11½	45 26	25 7.6::
16	11	39 19	22 47.5	9	8½	45 36	25 8.5
17	11	39 28	26 3.3	17	9	45 53	25 58.1
17	11½	39 46	26 8.3	17	9½	46 21	25 54.7
9	11½	39 59	24 51.3	17	11½	46 40	26 5.6
16	10½	39 59	23 3.5	17	9	47 45	26 7.6
16	10½	40 4	23 4.8	17	11½	47 52	26 2.9
16	10½	40 4	22 54.6	17	11	48 48	26 1.2:
17	11½	40 36	26 6.6	17	9	48 53	26 3.7
9	12	40 55	25 5.4	16	10	49 20	22 51.9
17	10½	40 55	25 55.0	16	11	49 31	23 4.8
9	11½	41 0	25 0.8	16	11	49 49	23 7.0
17	10	41 32	25 50.5	9	12	50 55	25 1.5
17	11	4 42 7	+25 56.4	16	10	4 51 3	+22 54.9

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
16	11	^{h. m. s.} 4 51 13	[°] +23 1.8	17	11	^{h. m. s.} 5 0 38	[°] +26 2.9
16	11	51 44	23 8.3	17	11	1 5	25 54.3
17	11	52 5	26 2.2	17	11½	1 54	25 51.4
17	11	52 6	26 3.0	15	11½	2 42	26 17.6
17	11½	52 9	26 2.3	15	10½	2 54	26 11.9
17	12	52 12	25 51.1	15	9	3 4	26 16.3
17	10	52 24	26 0.0	15	11½	3 12	26 15.3
17	12	53 13	25 53.4	17	12½	3 39	26 2.0
17	12	53 14	25 51.0	15	11½	3 46	26 24.7
16	11½	53 18	22 58.9	15	11	3 52	26 30.0
16	11	53 21	23 7.2	15	11	4 30	26 13.6
16	10½	54 8	22 55.1	15	11	5 4	26 11.7
17	12	54 13	26 3.2	15	11½	5 48	26 19.2
17	11½	54 29	26 3.9	17	11½	5 48	25 51.2
17	10	54 40	26 5.8	15	12	6 2	26 24.9
17	10	54 44	26 2.9	15	11½	8 10	26 27.1
17	10½	55 15	25 51.8*	15	11	8 56	26 10.5
17	11	55 49	26 8.4	15	10	11 3	26 16.3
17	11	56 34	25 59.3	15	12	11 16	26 17.4
17	11	57 2	26 3.1	15	11½	12 2	26 14.7
17	11	57 13	26 3.7	15	11	12 24	26 20.8
17	11	57 24	26 1.6	15	11	12 46	26 22.9
15	11½	57 32	26 28.7	15	11½	13 7	26 19.6
17	9	57 32	25 53.5	15	12	14 52	26 17.1
17	10	57 34	26 3.6	15	10½	15 50	26 19.8†
15	11	57 38	26 29.0	15	11	15 53	26 19.4
15	11	57 50	26 21.5†	15	12	15 59	26 27.0
15	11	58 27	26 29.2	15	11	16 7	26 28.2
17	11½	58 46	26 6.7	15	11½	17 48	26 18.4
17	11½	58 51	26 8.6	15	12	18 10	26 19.3
17	11½	59 0	25 53.9	15	11	21 40	26 27.2
15	10½	59 33	26 17.3	15	9	21 59	26 24.4
15	10½	59 33	26 28.6:	15	11	22 21	26 18.3
15	10½	4 59 54	26 19.2†	15	11	22 29	26 15.8
15	10	5 0 17	+26 13.6:	15	9	5 23 17	+26 11.1

* A 10½ p.

† (4).

G

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
		h. m. s.		° ' "			h. m. s.		° ' "
15	9½	5 23 53	+26	24.9*	15 17	10½	5 37 42	+26	17.8
15	10½	23 57	26	24.4	15 17	10½	38 4	26	20.1
15	10½	24 5	26	26.2	15 17	11½	38 12	26	15.5
15	11	25 22	26	28.6	15	11½	38 40	26	23.6
15	11½	25 24	26	29.2	15	10	38 40	26	30.4
15	11	26 12	26	26.3	17	11½	38 41	26	15.5
15	12½	26 28	26	28.1	17	11	38 52	26	13.9
15	11½	27 33	26	17.1	17	10½	39 35	26	10.6
15	12	27 39	26	17.1	17	10½	40 21	26	17.4
15	10½	27 53	26	28.0	15 17	10½	40 51	26	13.1
15	10½	27 58	26	26.8	15 17	10½	41 9	26	13.8
15	10	28 53	26	12.9	15	10	42 1	26	29.3
15	12	29 1	26	24.7	15 17	10	42 5	26	27.0
15	11	29 3	26	14.5	15 17	10½	42 25	26	22.9
15	11	29 11	26	14.1†	17	10½	43 0	26	16.4
15	10½	30 11	26	14.4	15 17	9½	43 4	26	28.4
15	11½	30 33	26	14.3	17	10½	43 23	26	16.0
15	10½	30 38	26	17.3	15 17	10½	43 24	26	24.9
15	11	30 46	26	15.7	17	10½	43 33	26	26.6
15	10½	31 23	26	30.4	15 17	8½	43 46	26	24.2
15	11	31 51	26	27.6	15	11½	43 53	26	14.1
15	9	32 16	26	31.9	15	10	44 26	26	23.1
15	11½	32 26	26	27.3	17	10	44 49	26	28.7
15	9½	32 39	26	11.9	17	11	45 20	26	20.0
15	10	33 21	26	16.0	17	10½	45 36	26	21.6
15	10	33 27	26	14.8	17	10½	45 44	26	25.4
15	10½	34 24	26	12.7	17	11	45 59	26	21.1
15	10½	34 26	26	23.4	17	10	46 17	26	15.0
15	9	35 36	26	16.2	15	11½	46 18	26	13.0
17	10	36 5	26	21.5	15 17	10	46 28	26	17.6
17	11	36 12	26	23.7	17	10½	47 28	26	22.0
15	10½	36 24	26	29.4	17	9½	47 59	26	11.8
15	11	36 46	26	26.2	17	8½	48 36	26	9.5
15	11½	36 55	26	26.7	17	8½	48 59	26	10.7
15	11	5 37 18	+26	15.1	15 17	10	5 49 2	+26	17.9

* Small companion.

† Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
15 17	10	^{h. m. s.} 5 49 15	[°] +26 20.2	18	10½	^{h. m. s.} 6 19 7	[°] +24 54.6
17	10½	49 32	26 11.4	18	11	20 11	24 54.6
17	11	49 35	26 12.5	18	9	20 37	24 53.7
17	11	50 31	26 11.9	18	9½	20 38	24 57.6
17	11	50 39	26 11.1	18	9½	21 12	24 56.3
17	9½	51 10	26 28.9	18	11½	21 39	24 55.0
17	9½	51 25	26 16.6	18	11½	21 51	24 54.9
17	10	52 24	26 25.1	18	9	22 30	25 4.9
17	10½	52 36	26 24.4	18	11	22 50	25 4.7
17	10½	52 42	26 24.2	18	11	23 1	25 7.5
17	11½	52 51	26 24.3	18	11	23 5	24 58.8
17	8	53 7	26 25.5	18	10½	23 25	25 7.3
17	10	53 54	26 12.8	18	11½	23 44	25 8.7
17	10	54 19	26 11.5	18	11½	24 17	25 5.4†
17	11	56 8	26 12.8	18	10	24 17	24 49.3
17	11½	56 9	26 13.5	18	11	24 53	25 6.6
17	11	56 32	26 12.7	18	11	25 38	24 53.9
17	11	56 36	26 13.0	18	11	26 3	25 8.2
17	11	57 16	26 13.2	18	10	26 22	25 13.0
17	10	57 24	26 10.8	18	9	27 0	25 4.6
17	10	57 56	26 9.0	18	9½	27 16	25 3.7
17	9½	58 2	26 17.7*	18	9½	27 36	24 55.8
17	10½	5 58 28	26 20.2	18	10	27 37	25 7.1
17	10½	6 0 7	26 22.9	18	9½	27 45	25 0.5
17	10½	0 9	26 11.8	18	9½	28 36	24 58.5
17	10	0 15	26 24.9	18	10	29 15	24 53.5
17	10	0 18	26 21.7	18	10	29 28	24 57.7
17	10	4 43	26 26.7	18	10	29 50	24 58.8
17	10½	5 45	26 23.5	18	10½	30 7	24 56.0
18	12	15 43	25 9.6	18	9	30 20	25 7.4
18	11	17 8	24 59.2	18	10½	30 32	25 9.0
18	11½	17 16	24 58.5	18	9	31 13	25 12.5
18	8½	17 38	25 3.2	18	11	31 25	24 56.0
18	9	17 46	25 1.9	18	11½	31 41	24 54.5
18	9½	6 18 42	+24 57.6	18	11	6 32 1	+24 57.4

* (4).

† p. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	[°]			^{h. m. s.}	[°]
17	11	6 33 26	+25 38.7	18	10	6 40 43	+25 4.8
17	10	33 51	25 38.8	17	10½	41 22	25 46.3
17	10	34 28	25 32.9	17	10½	41 27	25 39.1
18	9½	34 39	24 53.8	18	9	41 31	25 5.3
18	11	35 2	24 59.7*	18	11	41 38	25 3.4
18	10	35 12	24 56.0	18	12	41 54	24 58.3
18	10½	35 37	24 58.3	17	9½	41 59	25 44.4
17	10½	35 38	25 35.8	17	10½	42 8	25 47.9
18	11	35 38	24 54.8	17	10½	42 10	25 49.9
17	11	35 43	25 47.9	18	9½	42 31	24 57.4
17	11	35 48	25 42.7	18	10	42 32	24 55.9
17	10½	35 49	25 41.6	18	9	42 54	25 6.7
18	10½	37 9	25 4.5	17	10	43 14	25 45.7
17	11½	37 26	25 42.7	17	11	43 21	25 39.2
18	11	37 27	24 56.0	17	10	43 43	25 35.8
17	11	37 30	25 44.7	17	11	44 0	25 37.1
18	11	37 30	24 58.4	17	11	44 6	25 38.4
17	11	37 33	25 45.1 :	17	11	44 23	25 41.2
18	10½	37 40	25 1.2	17	10	45 48	25 43.1
18	10½	37 44	24 55.0	17	11	46 25	25 42.0†
18	10	38 0	24 54.4	17	10	46 54	25 44.9
18	9½	38 2	24 59.5	17	11	46 56	25 44.4
17	10	38 7	25 46.8	17	11½	47 2	25 45.1
18	11	38 8	24 54.1	17	10½	47 12	25 44.7
17	11	38 21	25 39.5	17	9	47 31	25 43.0†
17	9½	38 44	25 48.7	17	9	47 56	25 46.6
17	11	39 36	25 43.4	25	11½	48 8	22 26.5
18	11	39 37	25 2.3	25	11½	48 41	22 22.8
18	11	39 37	25 4.1	25	10	48 42	22 10.9
17	11	39 43	25 44.6	17	10½	48 46	25 46.6
17	11	39 45	25 43.6	25	10	49 4	22 11.8
17	11	39 56	25 43.2	25	10	49 7	22 10.2
18	11	40 3	25 7.5	17	11	49 48	25 43.3
18	11	40 12	25 4.7	17	11	50 6	25 33.1
18	9½	6 40 34	+24 53.8	25	10	6 50 8	+22 22.1

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	°			h. m. s.	°
25	10½	6 50 16	+22 27.5	17	10	6 59 4	+25 47.5
17	10½	50 24	25 34.4	25	10	59 10	22 27.0
25	9	50 31	22 26.7	25	9½	59 31	22 12.8
17	11	50 39	25 35.6	25	10	6 59 45	22 14.5
25	10½	50 46	22 24.7	17	11	7 0 28	25 34.5 †
17	10	51 5	25 38.1	17	11	0 49	25 49.0
17	10½	51 23	25 34.5	17	10½	1 19	25 33.0
17	10½	52 13	25 41.3	17	10½	1 23	25 34.6
25	11	52 18	22 27.5	25	10½	1 31	22 24.5 †
25	11½	52 22	22 24.6	25	9½	1 45	22 27.9
17	8	52 28	25 46.7	17	10	2 26	25 46.0
17	7½	52 54	25 37.9	17	10½	2 29	25 37.6
17	8½	54 42	25 45.9	17	10	2 53	25 45.9 *
17	10	55 16	25 36.5	25	11½	2 53	22 20.0
17	10½	55 24	25 47.6 *	17	10½	3 7	25 43.7
17	11	56 5	25 33.8	25	9½	3 12	22 15.4
25	11	56 14	22 14.6	25	10½	3 17	22 24.3
25	11	56 27	22 22.2	25	10½	3 21	22 22.1
25	11½	56 34	22 21.6	17	11	3 49	25 46.8
17	9	56 53	25 43.6	25	11	4 9	22 13.0
25	11	56 58	22 25.0	25	10½	4 32	22 12.1 *
17	11	57 9	25 31.9 *	17	10	4 43	25 41.2
25	10½	57 12	22 24.5	17	10½	5 5	25 45.1
17	11	57 19	25 43.2	25	11½	5 23	22 27.3
17	10	57 24	25 31.7	17	10	5 27	25 36.5
17	10½	57 30	25 41.2	25	11½	5 27	22 27.1
25	10½	58 4	22 23.7	17	11	5 40	25 37.4
25	10½	58 26	22 23.8	25	10½	5 42	22 24.8
25	11½	58 28	22 24.2	17	10½	5 45	25 35.5
25	10	58 33	22 19.8	25	10	6 8	22 27.3
25	9½	58 38	22 24.3	25	10½	6 17	22 22.4
17	10½	58 53	25 39.8 :	17	11	7 13	25 47.8
17	10	58 56	25 46.5	17	10	7 20	25 46.8
17	11	58 58	25 38.7	17	11	7 31	25 42.3
17	10	6 59 3	+25 49.2	25	11	7 8 19	+22 11.6

* L. of double.

† Small companion.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.				h.	m.	s.	
25	11	7	8	21	+22 14.4	17	11	7	17	16	+25 32.9
17	11		8	28	25 31.5	17	11		17	24	25 35.1
17	9		8	33	25 36.8	25	11		17	27	22 24.7
17	12		8	36	25 31.9	17	11½		17	35	25 39.1
17	12½		8	45	25 31.7	17	12		17	36	25 34.1
25	11		9	17	22 25.6*	17	9½		18	2	25 49.4
17	9½		9	20	25 33.9	25	11		18	9	22 28.2
17	10		9	22	25 42.1	17	12		18	46	25 34.9
17	9½		9	33	25 42.6	17	9½		19	32	25 34.0
25	8		9	41	22 10.2	17	9		19	45	25 34.2
17	11		10	3	25 41.6	17	10½		19	50	25 35.7
17	10½		10	10	25 45.3	17	11½		20	0	25 34.1
25	10½		10	34	22 15.8	25	11		21	0	22 23.9
25	11		10	40	22 14.4	17	10		21	7	25 30.7
17	11½		11	24	25 32.6	17	12		21	9	25 46.0
25	11		11	26	22 11.5†	25	10½		21	36	22 24.9
17	10½		11	48	25 33.1	25	9		21	39	22 21.8
17	10		12	11	25 46.0	17	11		21	49	25 32.6‡
17	11		12	15	25 37.7	25	10½		21	56	22 24.2
17	11		12	19	25 38.4	17	10½		22	22	25 35.2§
25	11		12	36	22 8.2	25	11		22	22	22 15.9
17	9		12	38	25 39.0	17	11		23	0	25 45.7
25	10		13	45	22 19.9	25	10		23	3	22 26.4
17	11		13	59	25 34.7	17	10		23	17	25 43.4
17	9		14	13	25 48.0	17	11		23	53	25 34.8
25	10		14	57	22 28.7	25	11		23	54	22 25.5
17	11½		15	29	25 42.5	17	9½		23	57	25 42.3
17	11½		15	34	25 41.7:	17	10½		24	15	25 37.6
17	11		15	36	25 43.0	25	10		24	59	22 24.8
25	11½		15	38	22 23.1	25	11		25	5	22 21.5
25	10		15	44	22 21.6	17	10		25	17	25 33.7
17	10		16	8	25 45.2	17	11		25	18	25 35.7
17	11½		16	18	25 42.3	25	8½		25	22	22 21.9
25	10		16	22	22 20.2	17	11		25	47	25 35.6
25	9½	7	16	56	+22 25.5	25	11	7	25	47	+22 16.0

* L. of double.

† Double.

‡ A 10th N. p.

§ Small companion.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	+ ^o ['] ^{''}			h. m. s.	+ ^o ['] ^{''}
17	10	7 26 14	+25 32.9	17	11	7 34 0	+25 44.4
17	11 $\frac{1}{2}$	26 15	25 38.1	17	10	34 2	25 36.3
25	10	26 30	22 24.0	17	10 $\frac{1}{2}$	34 11	25 36.6
25	10 $\frac{1}{2}$	26 33	22 27.2	25	11	34 13	22 16.2
17	10 $\frac{1}{2}$	26 55	25 38.1	25	11	34 14	22 11.3
25	10	27 14	22 20.4	25	10	35 25	22 17.9
25	11	27 17	22 14.8	25	10 $\frac{1}{2}$	36 58	22 15.9
25	11	27 23	22 10.1	25	10 $\frac{1}{2}$	37 0	22 20.4*
25	10	27 31	22 21.3	25	11	37 1	22 12.7
17	11	27 35	25 36.7	25	10 $\frac{1}{2}$	37 26	22 21.7
17	10 $\frac{1}{2}$	27 45	25 37.5	25	11	37 31	22 13.2
17	10	27 59	25 46.0	25	10 $\frac{1}{2}$	38 28	22 26.9
17	9 $\frac{1}{2}$	28 45	25 33.4	25	10 $\frac{1}{2}$	39 4	22 21.5
25	10 $\frac{1}{2}$	28 49	22 11.9	25	10 $\frac{1}{2}$	39 16	22 17.7
17	11	29 29	25 34.1	25	7	39 44	22 16.5
25	11	29 33	22 26.4	25	10	41 8	22 23.4
17	9 $\frac{1}{2}$	29 48	25 33.8	25	11	41 13	22 27.5
17	11	29 55	25 35.3	25	11 $\frac{1}{2}$	41 17	22 22.9
17	11	29 55	25 33.7	25	11	41 18	22 25.6
17	11	29 57	25 31.7	25	10 $\frac{1}{2}$	41 20	22 23.5
25	9 $\frac{1}{2}$	30 12	22 23.6	25	10 $\frac{1}{2}$	41 29	22 21.9
25	10	30 56	22 22.0	25	11	43 38	22 12.2
17	9 $\frac{1}{2}$	31 6	25 47.0	25	9 $\frac{1}{2}$	43 52	22 14.4
17	11 $\frac{1}{2}$	31 21	25 44.8	25	10	44 2	22 13.0
17	11 $\frac{1}{2}$	31 25	25 44.7	25	11 $\frac{1}{2}$	44 17	22 12.8 :
17	11 $\frac{1}{2}$	31 33	25 45.7	25	11	44 19	22 19.8
17	10 $\frac{1}{2}$	31 49	25 38.6	25	10 $\frac{1}{2}$	44 39	22 21.4 :
17	9 $\frac{1}{2}$	31 54	25 46.4	25	11	45 1	22 14.8
17	12	32 0	25 44.7	25	10 $\frac{1}{2}$	46 13	22 28.6
25	10	32 9	22 10.0	25	11	46 20	22 19.3
25	10	32 11	22 21.2	25	11	46 30	22 23.5
17	9 $\frac{1}{2}$	33 7	25 49.9	25	10 $\frac{1}{2}$	48 13	22 14.9
17	10 $\frac{1}{2}$	33 28	25 43.1	25	10 $\frac{1}{2}$	48 20	22 12.7
25	11	33 40	22 10.9	25	10	50 11	22 21.7
17	10	7 33 41	+25 45.2	25	10	7 50 16	+22 18.4

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$
25	10	7	50	34	+22 10.6	25	10½	8	4	0	+22 26.8
25	10½		50	44	22 11.5	17	10		4	33	16 40.9
25	10½		52	1	22 14.6	25	11		4	36	22 24.0*
25	11		52	4	22 22.2	25	9½		4	46	22 21.4
25	10		53	3	22 12.9	25	10½		5	2	22 22.0
25	11		53	13	22 11.5	17	11½		5	32	16 38.4
25	9½		54	1	22 15.8	17	11½		5	50	16 46.3
25	9½		54	29	22 18.3	25	11		6	27	22 22.2
25	11		56	58	22 18.2	25	11		6	53	22 21.2
25	11		57	37	22 19.4	25	11		7	12	22 26.1
25	10½		57	44	22 25.0	17	10		7	16	16 49.2
25	11		57	51	22 20.8	17	10		7	19	16 48.0
25	10		58	50	22 15.3	25	10½		7	32	22 25.7
17	10		58	54	16 44.8	17	10		7	54	16 46.7
17	10		58	59	16 46.7	17	9½		8	2	16 41.9†
17	11		59	4	16 45.1	17	9½		8	7	16 45.9
25	11		59	4	22 9.9	25	8		8	7	22 22.7
17	10½		59	18	16 45.7	17	11½		8	17	16 44.6
17	10½	7	59	36	16 38.3	25	10		8	23	22 24.4
25	10½	8	0	17	22 17.1	25	11		8	24	22 24.8
17	10		0	40	16 38.3	25	10½		8	26	22 29.0
17	9½		0	46	16 44.8	17	11		8	48	16 44.7
25	11		1	7	22 22.9	25	11		9	16	22 11.4
17	11½		1	16	16 43.7	17	10½		9	36	16 44.0
25	11½		1	26	22 24.0	17	12		9	40	16 48.6
17	11		1	41	16 39.4	17	12½		9	54	16 45.2
17	12		1	44	16 35.3	17	10		9	54	16 39.6
17	11½		2	7	16 32.3	17	11½		9	55	16 48.2
25	10		2	18	22 30.9	25	9	10	1		22 16.1
25	11½		2	51	22 13.4	25	10	10	10		22 9.9
17	12		2	59	16 34.8	17	10	10	45		16 32.1
17	10		3	18	16 32.4	25	10	11	13		22 18.6†
25	11½		3	52	22 23.7	17	10	11	50		16 36.4
17	11		3	54	16 43.2	17	11	12	5		16 44.9
17	11½	8	3	56	+16 38.8	17	12	8	13	2	+16 31.8

* L. of double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] ['] ^{''}			^{h.} ^{m.} ^{s.}	[°] ['] ^{''}
25	12	8 13 20	+22 15.8	25	10	8 28 28	+22 11.9
25	11	13 50	22 15.2	25	10½	29 29	22 14.1
17	7	13 58	16 31.7	17	11	29 31	14 11.0
25	10½	14 6	22 16.9	17	10½	29 43	14 18.4
25	9½	14 29	22 21.1*	17	9½	29 59	14 14.0
17	11½	15 33	16 35.4	25	10½	30 12	22 20.6*
17	11½	16 32	16 35.2	25	9½	30 25	22 12.4
17	10	16 47	16 36.1	17	11	30 43	14 18.4
25	11	16 58	22 18.5*	17	10	30 50	14 18.4
25	11	18 13	22 26.7	17	10	31 12	14 25.9
25	10	18 29	22 22.6	17	11½	31 19	14 14.7
25	10	18 46	22 17.5	17	10	31 19	14 26.7
25	11	18 58	22 15.3	17	10½	31 25	14 18.4
25	11	20 5	22 10.4	17	9½	31 28	14 15.2
17	10½	20 45	16 40.3	25	10½	31 57	22 23.6
25	11	20 55	22 17.7	25	10½	32 20	22 16.9
25	9	21 2	22 25.5	17	10	32 23	14 13.4
25	9½	21 7	22 16.4	17	11½	32 23	14 9.1
17	11	21 12	16 46.0	17	11	32 42	14 12.0
17	11	21 22	16 46.0	25	11	32 47	22 17.9
25	9½	21 23	22 14.5	25	11½	32 52	22 15.6:
25	10½	22 14	22 15.2	25	11½	33 9	22 14.5
17	11	22 24	16 34.1	17	10½	33 44	14 11.4
17	10	22 59	16 50.2	25	10	34 14	22 10.6
25	9½	23 2	22 15.9	25	10	34 16	22 25.2
17	10½	23 12	16 49.3	25	11½	34 33	22 22.8
25	10	23 14	22 16.8	25	10	34 40	22 12.3
25	11½	23 30	22 17.0	17	11½	34 50	14 13.0
17	11½	24 20	16 36.3	17	10	34 50	14 12.2
25	10½	25 24	22 14.5	17	10	34 55	14 12.3
25	10½	25 25	22 15.3	17	10	36 1	14 12.0
25	12	25 52	22 17.6	17	11	36 7	14 16.8
25	11	26 27	22 22.0	17	10	37 45	14 24.0
25	11	26 34	22 17.8	17	9½	37 57	14 28.8
25	11½	8 27 10	+22 16.1	17	10	8 38 35	+14 8.7

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$ ' "			h. m. s.	$^{\circ}$ ' "
17	10 $\frac{1}{2}$	8 38 41	+14 22.7	25	10	8 53 27	+19 13.3
17	10 $\frac{1}{2}$	38 43	14 17.6	17	9 $\frac{1}{2}$	53 30	14 16.4
17	10	38 52	14 22.8	25	10	53 57	19 18.1
17	11	39 55	14 10.9	17	10	54 7	14 12.5
17	9	40 23	14 22.9	17	10 $\frac{1}{2}$	54 11	14 9.8
17	10	40 37	14 10.5	17	10	54 49	14 30.2
17	10 $\frac{1}{2}$	41 4	14 10.5	25	10	55 0	19 25.4
17	11	41 21	14 20.1	17	11	55 20	14 21.6
17	11	42 9	14 16.0	25	11 $\frac{1}{2}$	55 30	19 15.1
17	10	42 31	14 23.7	17	11	55 40	14 26.9
17	10	44 58	14 21.7	25	10 $\frac{1}{2}$	56 27	19 22.9
17	10 $\frac{1}{2}$	45 3	14 16.3	17	10 $\frac{1}{2}$	56 30	14 27.8*
17	10 $\frac{1}{2}$	46 21	14 14.5	17	10 $\frac{1}{2}$	56 33	14 12.4
17	9 $\frac{1}{2}$	46 45	14 20.5	17	11	57 19	14 23.5
17	11 $\frac{1}{2}$	47 14	14 24.9	25	10	57 27	19 19.9†
17	10 $\frac{1}{2}$	47 38	14 14.3	17	10	57 30	14 22.5
17	11 $\frac{1}{2}$	48 12	14 15.5	17	11 $\frac{1}{2}$	57 44	14 20.1
17 ⁴	11 $\frac{1}{2}$	48 17	14 15.3	17	9 $\frac{1}{2}$	57 50	14 12.2
17	11 $\frac{1}{2}$	48 22	14 14.7	25	11	58 31	19 17.3
17	11 $\frac{1}{2}$	48 26	14 19.8	25	10 $\frac{1}{2}$	58 37	19 14.0
17	10	49 45	14 13.1	17	10 $\frac{1}{2}$	59 4	14 22.8
17	11	49 48	14 17.5	17	11 $\frac{1}{2}$	59 22	14 10.4
25	12	50 7	19 22.7	17	9	59 37	14 17.2
17	9	50 10	14 15.1	25	10	59 38	19 17.0
17	11	51 29	14 27.7*	25	10 $\frac{1}{2}$	59 44	19 30.4
25	11 $\frac{1}{2}$	51 31	19 32.8	25	11	8 59 46	19 28.1
17	10	51 41	14 27.1	17	10	9 0 12	14 14.7
25	11	52 10	19 30.2	17	10 $\frac{1}{2}$	0 42	14 15.3 :
17	11	52 22	14 15.0	25	10 $\frac{1}{2}$	1 34	19 26.4
17	11	52 26	14 27.0†	17	10	1 59	14 24.4
25	11	52 27	19 28.8	17	10	2 7	14 13.0
17	11 $\frac{1}{2}$	52 52	14 27.0	17	11	2 9	14 11.8
17	12	53 5	14 26.8	17	12 $\frac{1}{2}$	2 19	14 18.6
25	10 $\frac{1}{2}$	53 6	19 21.9	17	11	3 45	14 26.4
25	10 $\frac{1}{2}$	8 53 8	+19 23.5	25	11 $\frac{1}{2}$	9 3 53	+19 29.1

* L. of double.

† Double.

‡ (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
17	12	9 3 55	+14 23.9	25	11	9 13 50	+19 20.5
17	12	4 36	14 11.1	17	11	14 6	14 24.0
17	12	4 45	14 11.8	25	11	14 13	19 17.3
17	10 $\frac{1}{2}$	4 45	14 27.7	25	11 $\frac{1}{2}$	14 17	19 19.8
25	11	4 46	19 17.3	17	11 $\frac{1}{2}$	14 23	14 19.8
25	11	4 54	19 18.9*	25	11	15 23	19 30.4
25	11 $\frac{1}{2}$	5 7	19 24.9	17	12 $\frac{1}{2}$	16 19	14 24.4
17	10	5 31	14 11.0	17	11 $\frac{1}{2}$	16 20	14 18.6
17	11	5 37	14 9.7	17	12 $\frac{1}{2}$	16 25	14 25.9
17	11	5 50	14 22.6	17	10	16 32	14 23.8
25	9	5 54	19 13.8	25	9	16 35	19 27.7
17	12	6 2	14 26.9	25	9	16 38	19 23.5†
17	12	6 7	14 25.6	17	10 $\frac{1}{2}$	16 39	14 24.6
25	11	6 16	19 12.6	25	11	16 43	19 22.8†
17	10 $\frac{1}{2}$	6 21	14 25.9	17	11	17 10	14 9.7
25	9 $\frac{1}{2}$	6 48	19 30.7	25	11	17 13	19 18.7
17	10	7 47	14 10.5	17	11 $\frac{1}{2}$	17 51	14 13.5
17	10	8 0	14 15.2	17	10	18 14	14 25.9
25	10 $\frac{1}{2}$	8 51	19 15.2	25	11	18 15	19 16.3
25	11	9 24	19 22.3	25	11 $\frac{1}{2}$	18 18	19 12.7
17	12	9 25	14 10.7	17	10 $\frac{1}{2}$	18 21	14 23.3
25	10	10 6	19 22.6	25	10 $\frac{1}{2}$	18 40	19 15.5
17	10	10 25	14 28.0	17	9	19 9	14 17.2*
25	11	11 6	19 32.3	25	10 $\frac{1}{2}$	19 21	19 24.3
17	11 $\frac{1}{2}$	11 14	14 13.2	25	11	19 36	19 30.0
17	9	11 26	14 9.3	17	10	19 42	14 16.2
25	10	11 49	19 26.3	17	11	19 55	14 22.2
17	10	12 6	14 9.5	25	10 $\frac{1}{2}$	19 55	19 25.6
17	10	12 7	14 10.2	17	10 $\frac{1}{2}$	20 9	14 25.4
25	9 $\frac{1}{2}$	12 15	19 20.6†	17	11	20 54	14 13.4
27	11 $\frac{1}{2}$	13 7	14 14.1	25	11 $\frac{1}{2}$	21 19	19 15.2
17	12	13 27	14 15.1	25	10 $\frac{1}{2}$	21 41	19 17.7
17	12 $\frac{1}{2}$	13 28	14 15.7	17	11	21 44	14 11.2
17	11 $\frac{1}{2}$	13 43	14 16.5	25	10 $\frac{1}{2}$	22 0	19 13.2
17	11 $\frac{1}{2}$	9 13 45	+14 16.1	25	10 $\frac{1}{2}$	9 22 6	+19 18.1

* L. of double.

† (4). L. of double.

‡ (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	°			h. m. s.	°
25	10½	9 22 32	+19 30.8	17	11	9 31 9	+14 24.2
17	10½	22 39	14 12.2	17	11	31 36	14 27.8
25	11	22 54	19 12.0	17	9	31 44	14 21.6
25	9	23 13	19 15.1	17	9½	32 9	14 25.9
17	10	23 29	14 25.9	17	9	32 29	14 22.4
25	11	23 37	19 20.2	25	11	32 59	19 24.1
25	11½	23 45	19 28.8	25	11	33 6	19 24.5
17	11	24 5	14 29.6	25	10½	33 8	19 21.3
25	10	24 13	19 25.5	17	10½	34 2	14 30.4
17	10	24 18	14 24.3	25	10½	34 9	19 30.1
25	11	24 29	19 24.9	25	10	34 16	19 29.8
17	11	24 34	14 16.6	17	10½	34 18	14 24.3
17	10½	25 9	14 13.7	17	10	34 48	14 25.7
17	11	25 14	14 17.0	17	11	35 13	14 11.8
17	10	25 14	14 19.4	17	9½	37 7	14 25.6
25	11	25 16	19 22.1	17	10	38 12	14 19.9
17	10½	26 19	14 9.1	17	8½	38 18	14 21.0
25	10½	26 39	19 14.4	17	10	39 12	14 22.3
25	10½	26 44	19 10.0	17	10½	39 16	14 21.0
17	11	27 17	14 11.5	17	10½	39 52	14 17.4
25	10	27 23	19 15.8	17	11½	40 12	14 10.9
25	10½	28 0	19 17.6	17	8	40 43	14 28.2
17	11½	28 7	14 13.8	17	10	41 14	14 25.4
17	11	28 11	14 17.6	17	9½	41 19	14 22.4
25	10	28 38	19 17.5	17	9½	41 34	14 25.2
17	10	28 49	14 11.4	17	9	42 2	14 16.9*
17	10	28 50	14 13.1	17	11	43 27	14 13.1
25	10½	28 59	19 15.3	17	11½	44 44	14 26.4
17	10	29 23	14 10.4	17	11½	45 5	14 21.4
25	9½	29 45	19 18.6	17	11	45 26	14 24.5
17	11	29 50	14 30.6	17	12	45 48	14 21.7
17	10	30 10	14 14.4	17	10	46 1	14 21.1
17	8½	30 30	14 15.2	17	10½	46 8	14 12.1
25	9½	30 49	19 22.8	17	10½	46 29	14 19.5
17	11	9 30 53	+14 25.9	17	10½	9 47 30	+14 21.9

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.			° ' "			h. m. s.			° ' "
17	11	9 49 4			+14 20.2	17	10½	10 24 14			+14 19.9
17	11	49 42			14 9.6	17	11	26 0			14 14.7
17	11	50 1			14 9.9	17	10½	26 9			14 19.9
17	10	51 23			14 30.0	17	11½	26 12			14 11.1
17	10	51 37			14 27.4	17	12	26 27			14 25.5*
17	12	52 48			14 21.7	17	9	27 44			14 26.5
17	12½	52 57			14 22.1	17	11	29 53			14 15.2
17	12	53 20			14 24.7	17	9	30 8			14 19.9
17	10½	53 31			14 17.5	17	12	31 29			14 11.0
17	10	53 56			14 24.3	17	11½	32 25			14 26.9
17	11½	54 9			14 18.1	17	11½	32 43			14 24.4
17	10½	54 23			14 26.6	17	11	33 22			14 22.6
17	11½	55 4			14 11.6	17	11½	33 30			14 23.2
17	12½	56 40			14 21.6	17	11	34 47			14 16.2
17	11½	57 46			14 27.7	17	10½	35 4			14 13.6
17	12	57 57			14 25.7	17	9½	35 28			14 10.9
17	10	9 59 1			14 26.4	17	10	36 21			14 20.3†
17	11	10 0 21			14 20.5	17	11	56 10			3 11.7
17	9½	1 47			14 30.5	17	10	56 17			3 14.3
17	11½	3 47			14 20.2	17	11	56 39			3 18.4
17	11½	4 22			14 15.6	17	10	56 59			3 28.6
17	11½	8 6			14 24.8	17	10½	57 1			3 17.6
17	12	8 22			14 24.2	17	11½	58 16			3 25.4
17	11½	9 42			14 12.5	17	10½	59 4			3 26.6
17	11	10 50			14 26.2	17	10	59 16			3 22.0
17	11	11 18			14 7.9	17	11½	59 17			3 23.8
17	11½	13 56			14 16.4	17	10½	59 31			3 13.4
17	12½	15 52			14 10.0	17	11	59 40			3 23.6
17	11½	16 50			14 22.3	17	11	59 44			3 21.3
17	11	17 12			14 14.7	17	10½	10 59 53			3 15.8
17	11½	17 22			14 23.3	17	11½	11 0 57			3 26.2
17	11	17 32			14 22.6	17	10½	1 12			3 28.9
17	11½	20 58			14 11.8	17	11	1 13			3 15.4
17	11½	21 1			14 11.1	17	11½	1 30			3 24.4
17	11½	10 22 20			+14 24.7	17	11	11 2 25			+ 3 21.2

* L. of double.

† (4).

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
		h. m. s.		$^{\circ}$ $'$			h. m. s.		$^{\circ}$ $'$
17	10	11 2 39	+	3 13.9	17	10	11 23 6	+	3 27.9
17	10	3 18		3 19.3*	17	11	23 20		3 26.2
17	11	4 51		3 28.9	17	10	23 42		3 15.3
17	9½	4 52		3 19.8	17	12	24 32		3 13.7
17	12	5 32		3 25.8	17	11	25 27		3 25.1
17	11½	6 28		3 23.5	17	11	25 31		3 17.5
17	11½	8 26		3 29.8	17	11	25 33		3 27.8
17	10	8 27		3 24.5	17	10	25 59		3 16.3
17	10	9 19		3 26.4	17	11½	27 4		3 32.2
17	11	9 28		3 26.6	17	12	27 18		3 27.6
17	10½	9 54		3 24.5 :	17	11½	27 48		3 31.6
17	10½	10 9		3 26.0	17	11½	28 4		3 21.7
17	11½	10 42		3 18.9	17	11½	28 14		3 13.2
17	10	11 3		3 25.7	17	11½	28 28		3 25.1
17	11	11 18		3 15 7	17	11	28 35		3 25.9
17	11	11 33		3 19.1	17	11	29 18		3 29.9
17	10½	11 53		3 16.6	17	11	30 41		3 17.0
17	10½	12 19		3 27.6	17	11	31 18		3 27.3
17	11	12 46		3 11.1	17	11	31 24		3 28.5 :
17	12	13 58		3 26.7	17	10½	32 3		3 26.9
17	11	15 2		3 23.0	17	9½	32 7		3 23.8
17	11	15 8		3 22.4	17	10½	32 46		3 25.3
17	11½	15 28		3 26.5	17	11½	33 1		3 23.6
17	11	16 19		3 14.9	17	11½	35 50		3 23.1
17	11	16 31		3 28.8	17	11	36 5		3 11.3
17	11	16 36		3 24.8	17	12	36 12		3 22.8
17	10	16 54		3 24.1	17	12	36 13		3 24.1
17	12	17 53		3 24.7	17	11	37 30		3 25.3
17	11½	18 57		3 25.2	17	10	37 38		3 22.4
17	12	19 9		3 24.7	17	10½	38 39		3 27.6
17	10	19 28		3 15.3	17	10½	39 21		3 15.7
17	11½	19 57		3 12.7	17	10½	39 46		3 22.7
17	9½	21 54		3 12.3	17	10½	40 20		3 13.2
17	10	21 56		3 17.7	17	11	40 43		3 16.4
17	11½	11 22 55	+	3 13.6	17	10½	11 41 4	+	3 26.6

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	11½	h. m. s. 11 41 8	+ 3 27.7	17	9½	h. m. s. 12 0 7	+ 3 12.6
17	12	41 18	3 26.9	17	9½	0 12	3 11.8
17	10½	41 58	3 12.7	17	9	1 26	3 16.5
17	9½	42 4	3 16.3	17	12	2 27	3 15.9
17	10½	43 15	3 14.4	17	12	2 35	3 17.3†
17	9½	44 0	3 18.4	17	9	2 52	3 12.3
17	10½	44 25	3 27.2	17	10	4 19	3 14.6
17	10½	44 37	3 29.4	17	11	4 40	+ 3 18.9§
17	10	46 23	3 18.7*	17	10	27 43	— 0 56.2
17	10½	46 33	3 16.4	17	11	29 21	0 59.9
17	10½	47 1	3 11.4	17	10	29 56	0 55.4
17	11	47 18	3 19.0	17	11½	31 22	1 6.5
17	11	48 28	3 32.0†	17	11	32 5	1 1.6
17	9	48 33	3 27.0	17	11½	32 16	0 53.2
17	10	49 47	3 15.7	17	11	32 31	1 0.5
17	10½	49 56	3 29.5	17	10	32 31	0 52.1
17	10	50 33	3 22.8	17	10½	33 15	0 59.9
17	11	51 6	3 16.2	17	10½	33 27	0 48.7
17	10	51 10	3 27.3	17	10½	33 48	0 53.0
17	9½	51 15	3 16.9	17	9½	35 31	1 3.7
17	10	52 16	3 25.0	17	10	35 33	0 49.3
17	10	52 22	3 24.2	17	11	36 48	0 49.7
17	10½	52 57	3 30.1	17	10	37 9	0 50.0
17	8½	52 59	3 14.9	17	11	38 7	0 54.3
17	10	55 1	3 12.9	17	11	42 37	1 0.6
17	11½	55 9	3 16.6	17	9½	43 14	0 54.0
17	11	56 38	3 24.7	17	10½	43 34	1 3.1
17	8	56 55	3 27.3	17	10½	44 34	0 55.5
17	11	56 58	3 17.2	17	10½	45 25	0 49.9
17	10	57 38	3 14.8	17	11	46 22	0 53.6
17	10½	58 17	3 23.3	17	11½	46 52	0 59.4
17	11	58 49	3 12.0	17	10	46 57	1 2.4
17	12	59 39	3 29.3	17	12	46 57	1 3.3
17	12	11 59 48	3 25.3	17	11½	47 3	1 6.2
17	9	12 0 1	+ 3 20.5	17	9	12 49 0	— 0 48.8

• (4). † Double. ‡ A 12th N. p. § (4). A 12th N. J. || L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	11	^{h. m. s.} 12 49 16	^{° ' "} — 0 53.8	17	11	^{h. m. s.} 13 26 49	^{° ' "} — 12 58.7
17	10	51 6	1 5.4	17	10½	26 54	12 55.1
17	9	51 16	0 57.0	17	10½	27 54	13 3.6
17	9½	51 34	1 5.5	17	11	28 56	13 6.8
17	9½	52 39	0 48.2	17	10½	29 3	13 2.9
17	9	52 41	0 52.8	17	10½	29 15	13 5.2
17	10	52 52	0 49.2	17	10½	30 30	12 51.8
17	11	53 8	0 57.1	17	9	30 36	13 0.2
17	11	53 17	0 52.4	17	10½	30 46	12 48.1
17	11	53 50	0 56.9	17	11½	31 50	12 54.1
17	10	54 55	1 1.9	17	10	32 2	12 54.8
17	10½	56 8	0 48.8	17	10	32 2	12 52.3
17	9½	56 43	0 50.8	17	11	33 8	13 3.5
17	10	56 48	0 52.9	17	10	33 10	13 0.9
17	10	57 55	0 53.5	17	11	33 52	12 52.9
17	11	58 16	1 1.2	17	11	34 7	12 53.0
17	11	58 58	1 1.6	17	Neb.	34 13	13 6.0
17	11½	12 59 48	0 52.0	17	8	34 28	12 47.9
17	11½	13 0 9	0 51.9	17	10½	35 32	12 53.5
17	10	0 13	1 0.7	17	10½	35 34	12 55.2
17	10	1 9	1 0.0	17	11	35 50	12 54.5
17	11	1 54	1 3.2	17	11	36 47	13 4.0
17	11½	2 16	1 4.1	17	11	37 48	13 0.6
17	12½	2 52	1 5.2	17	9½	38 1	12 52.0
17	11½	3 14	0 50.8	17	10½	38 26	13 2.0
17	11½	3 24	0 56.2	17	10½	38 32	13 1.2
17	11	5 23	0 54.1	17	11½	45 17	12 49.2
17	12	5 26	0 55.9	17	10½	45 34	12 57.6
17	10	5 47	0 57.8	17	10	46 11	12 55.7
17	11½	5 59	0 59.5	17	11	47 33	13 1.3
17	11	6 40	1 0.3	17	11½	47 39	13 4.7
17	11½	6 42	0 55.2	17	11½	47 48	13 6.1
17	9½	8 3	0 59.5	17	11	48 16	12 58.5
17	8	10 0	0 51.0	17	10	49 18	12 52.0
17	11	13 26 47	— 13 0.9	17	10½	13 49 45	— 12 49.0

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	11 $\frac{1}{2}$	^{h. m. s.} 13 49 55	[°] —12 54.0	17	11	^{h. m. s.} 14 1 44	[°] —12 53.6
17	10	50 44	12 48.8	17	10 $\frac{1}{2}$	3 4	12 59.5
17	10 $\frac{1}{2}$	50 58	12 56.6*	17	—	3 21	12 56.0
17	11	51 40	13 3.2	17	10 $\frac{1}{2}$	3 25	12 58.4*
17	—	52 45	12 48.7:	17	10 $\frac{1}{2}$	6 12	12 49.9:
17	11	53 42	12 50.4	17	10 $\frac{1}{2}$	6 17	12 49.1
17	10	54 39	12 53.9	17	10	6 32	12 53.8
17	10 $\frac{1}{2}$	54 50	12 54.2	17	11 $\frac{1}{2}$	7 41	13 3.3
17	11	54 56	12 50.8	17	11 $\frac{1}{2}$	7 41	13 4.5
17	10	55 50	13 1.9	17	9	7 44	13 0.6
17	10	56 0	13 1.3	17	9	8 43	12 48.3
17	10	57 12	12 54.8	17	9 $\frac{1}{2}$	9 57	12 48.7
17	11 $\frac{1}{2}$	57 30	12 49.9	17	11	10 6	12 53.8
17	11 $\frac{1}{2}$	57 51	12 52.9	17	9	11 16	12 58.6
17	11	57 58	12 47.9	17	11	11 19	13 3.1
17	11	59 6	12 53.2	17	11	11 34	13 5.0
17	10 $\frac{1}{2}$	59 10	12 59.4*	17	11	13 24	12 52.8
17	11 $\frac{1}{2}$	13 59 22	12 50.9	17	11	14 0	13 1.1
17	10	14 0 43	12 51.8	17	11	16 26	12 53.7
17	11 $\frac{1}{2}$	1 1	12 49.1	17	11	16 38	12 54.3
17	11	1 26	12 54.0	17	9 $\frac{1}{2}$	17 13	12 49.9
17	10 $\frac{1}{2}$	14 1 41	—12 53.0	17	10 $\frac{1}{2}$	14 17 33	—12 49.5

• (4).

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,
OF
2,928 STARS NEAR THE ECLIPTIC,
OBSERVED IN FEBRUARY, 1855, AT MARKREE.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	$^{\circ}$ $'$			h.	m.	s.	$^{\circ}$ $'$
17	11	4	6	4	+22 37.6	17	11	4	22	26	+22 42.0
17	11		6	22	22 36.1	17	11		22	31	22 42.4
17	11½		6	34	22 34.8	17	11		24	44	22 35.8
17	10		6	35	22 28.3	17	11½		24	53	22 31.2
17	10		8	14	22 44.8	17	11		25	8	22 32.2
17	11		10	29	22 38.0*	17	9		25	52	22 34.3
17	11		10	33	22 45.3	17	11½		26	2	22 42.9
17	11½		11	2	22 42.6	17	8½		26	18	22 43.9
17	11½		12	1	22 42.9	17	10		26	55	22 35.5†
17	10		12	4	22 38.8	13	10		27	9	25 24.3
17	11		12	15	22 45.6	17	11½		27	25	22 33.6
17	11		12	36	22 46.0	13	11		27	32	25 18.6
17	10½		12	43	22 45.0	17	12		28	51	22 31.6
17	11		13	10	22 45.6	13	11½		29	5	25 23.8
17	11½		14	13	22 27.2	17	11		29	20	22 31.3
17	11		14	54	22 34.3	17	10½		29	30	22 35.7*
17	10		15	31	22 44.3	17	11		29	31	22 31.9
17	10½		15	34	22 39.2	13	12		29	33	25 23.0
17	11½		16	39	22 32.0	13	11½		29	42	25 15.9*
17	11½		16	46	22 36.5	17	10½		30	28	22 40.6
17	11½		16	46	22 33.1	17	11		30	51	22 38.2
17	10		18	18	22 44.8	17	10		30	57	22 38.6
17	11½		18	37	22 37.9	13	9		30	59	25 17.6
17	12		19	55	22 31.7	17	11		31	31	22 37.9
17	10		20	7	22 28.9	13	10		31	40	25 16.4*
17	11½		20	28	22 31.5	17	9		33	5	22 46.2
17	10½		20	35	22 38.1	13	11		33	34	25 18.9
17	11		20	41	22 32.9	17	11		34	2	22 42.8
17	11½		20	57	22 35.7	13	11½		34	26	25 21.5
17	11½	4	22	3	+22 42.7	13	12	4	34	41	+25 20.6

* (4).

† L. of double

APPROXIMATE MEAN PLACES OF STARS.

99

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	°			h. m. s.	°
17	10½	4 34 45	+22 44.2	13	10	4 48 55	+25 16.2 †
13	10	34 50	25 20.8	13	11½	49 22	25 21.9
13	10½	34 55	25 21.0	13	10½	49 27	25 12.5
13	9½	34 59	25 23.3	17	10	49 39	21 54.0
17	11	35 15	22 41.0	17	10	50 13	21 57.8
17	9½	35 54	22 45.6	17	11	50 26	21 56.4
13	9	36 31	25 26.1	17	11	50 44	21 53.7
13	10	36 36	25 12.4	17	11	50 57	21 57.3
13	10½	36 38	25 18.6	17	11	51 30	22 5.2
17	11	36 56	22 32.7	17	11	52 20	21 52.9
13	11½	37 12	25 15.7	17	11	52 29	21 59.0
17	11	37 14	22 32.3	17	10	52 47	22 4.2
17	9½	37 16	22 43.5	17	11	53 51	21 54.3
17	11	37 19	22 32.1	17	11½	54 57	22 2.7
13	10	37 49	25 20.3	17	10	55 2	22 2.3
17	10½	37 50	22 34.6	17	10½	55 44	22 4.4
17	10	38 24	22 46.7	17	10	55 50	21 56.9
17	11	38 51	22 45.0	13	11	56 41	19 3.0
13	11½	40 49	25 21.8	13	10	56 45	19 12.9 †
13	11½	41 8	25 23.1	17	9½	56 51	22 5.8
13	11½	42 19	25 10.7	17	9½	56 59	21 51.3
13	10	42 57	25 10.5	17	10½	57 30	21 55.6
13	12	43 11	25 10.8	17	11	58 18	22 11.0
17	10½	43 57	22 1.6	13	10	58 22	19 1.2
13	9	43 58	25 13.9 *	13	11½	58 47	19 6.0
13	11½	44 1	25 11.1	13	11½	58 47	19 9.0
13	11	45 37	25 18.4 *	17	9½	58 52	21 51.1
13	11	45 42	25 12.7	17	9	59 17	22 2.2 †
13	11	46 19	25 25.0	17	9	59 24	21 50.3
13	11	46 46	25 18.7 *	17	9½	59 32	21 47.8
17	10	47 4	22 2.7	17	9½	59 41	22 2.4
13	10½	47 25	25 9.9	13	11½	59 45	18 54.2
13	11	48 15	25 10.7	13	11	4 59 49	18 56.0
17	11	48 42	21 57.8	13	12	5 0 8	18 54.5
13	9	4 48 52	+25 23.0	17	9	5 0 27	+21 55.4

* Double.

† (4).

‡ Small companion.

H 2

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.				h.	m.	s.	
12	11	5	0	28	+26 40.9	12	11½	5	7	42	+26 42.6
13	10½		0	38	18 53.7	13	9		7	58	19 7.7
17	11		0	44	22 4.8	17	10		8	5	21 49.2
17	11		0	45	22 7.7	13	10½		8	18	19 7.7
17	10½		1	11	22 9.6	12	9½		8	22	26 34.6
17	11½		2	12	21 54.4	17	11		8	47	21 53.9
13	11½		2	17	19 7.0	12	10		8	54	26 47.3
13	11		3	10	19 5.7	17	11		9	0	21 54.3
17	10½		3	28	21 57.8	13	10		9	5	18 54.9
17	11		3	38	22 3.9	12	11		9	17	26 44.5
17	11½		3	42	22 3.4	17	10		9	17	21 48.6
13	11		4	0	18 58.5	13	9		9	22	19 9.4
12	9½		4	3	26 36.7	12	10½		9	26	26 48.1
17	10		4	15	22 1.6*	17	10½		9	32	21 52.4
12	10½		4	20	26 34.2	13	10		9	58	19 7.1
13	10		4	23	18 59.6	13	10½	10	3		19 8.3
17	10		4	23	22 6.3	12	11½	10	5		26 46.8
12	9½		4	55	26 36.6	13	9	10	13		18 54.1
17	11		5	4	22 4.3	12	11	10	19		26 44.9
12	11		5	17	26 45.9	12	11	10	24		26 46.5
12	11½		5	18	26 46.9	13	10	10	24		18 55.6
17	11		5	23	21 57.7†	17	11	10	24		22 8.0
12	10		5	27	26 46.8	12	11	10	35		26 44.4
13	9		5	29	19 5.1	13	10	10	46		18 54.9
17	10		5	32	22 8.6	12	11	10	54		26 44.7
17	10		5	45	22 3.9	13	10	10	58		19 8.6
12	10½		6	17	26 32.0	12	10	11	10		26 31.5
12	10		6	30	26 32.0	13	10	11	20		19 5.4
17	11		6	55	22 6.5	17	10½	11	23		21 51.4
17	11		7	13	22 4.0	17	11½	11	25		22 4.8
17	11		7	25	22 5.0	17	11½	11	30		21 53.0
12	9½		7	27	26 36.8	12	9	11	35		26 36.6
13	9½		7	28	19 7.4	13	11	11	36		18 53.5
12	10		7	31	26 50.2	12	11½	11	45		26 30.7
17	11½	5	7	39	+21 56.7	12	11½	5	11	59	+26 43.6

* (4).

† A 12th f.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
12	12	^{h. m. s.} 5 12 24	+26° 44.0	12	9½	^{h. m. s.} 5 18 43	+26° 32.9 :
13	10	12 39	19 8.9*	13	11	18 59	18 59.9
17	11	12 52	22 2.2	12	11	19 3	26 38.1
17	11	13 1	22 8.2	13	10½	19 3	18 55.4
12	11½	13 6	26 33.0	13	10½	19 24	19 2.6
17	11½	13 6	22 4.6	12	12	19 53	26 30.3 §
17	11	13 12	22 3.7	12	9½	19 55	26 40.2
12	11	13 18	26 46.3*	13	11	20 33	18 52.0
12	11½	13 23	26 46.2	13	10	21 1	19 10.9
17	10½	13 30	21 54.7	13	10	21 24	19 9.7
13	10½	13 38	19 5.3*	12	11	21 36	26 32.3
13	9½	13 56	19 5.9	12	11	21 56	26 32.1
12	9½	14 11	26 33.2	12	11	22 0	26 32.5
12	10	14 12	26 30.2	13	9	22 4	19 5.6
17	11	14 48	22 1.8	12	10	22 18	26 40.0
12	9	14 53	26 36.6	13	9½	22 25	18 56.6
13	9½	15 20	18 52.8	13	9	22 31	18 54.2
12	11½	15 35	26 34.9	13	10½	22 43	19 3.4 †
12	11½	15 37	26 37.5	13	9½	22 52	18 53.5
12	11½	15 37	26 36.0	12	9½	23 21	26 40.4
12	11½	15 39	26 34.1	13	10½	24 55	18 55.6
13	10	15 44	19 0.1	12	10½	25 11	26 37.7
12	9	15 45	26 48.7	12	10	25 38	26 40.7
17	9½	15 54	21 57.2 †	13	11½	25 46	18 53.8
12	10½	15 59	26 35.3	12	10	26 20	26 43.8
13	9½	16 9	19 3.0	12	10	26 41	26 46.8
12	11	17 14	26 32.6	12	11	27 27	26 45.5
13	10	17 22	18 50.0	12	11	27 33	26 30.6
12	11½	17 27	26 31.6	12	11	27 40	26 31.1
12	10½	17 29	26 34.4 †	12	11	27 54	26 37.1
13	10	17 37	18 55.0	12	11	28 26	26 35.2
12	11	18 19	26 31.4	13	9½	28 27	18 54.8
12	11	18 32	26 35.9 :	12	11½	29 23	26 32.3
13	10½	18 34	19 3.7	12	11½	29 26	26 34.0 :
12	11½	5 18 39	+26 37.8	12	11½	5 30 27	+26 30.1

• Double.

† Small companion.

‡ L. of double.

§ A 12th p.

|| (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
12	11	^{h. m. s.} 5 30 53	+26° 34.4	12	10½	^{h. m. s.} 5 46 13	+26° 36.6
12	11	30 54	26 32.7	12	11	46 25	26 38.2 :
12	11	32 45	26 42.4	12	11½	46 57	26 35.2 †
12	11	32 56	26 47.6	12	12	47 0	26 37.2
12	11	33 3	26 37.5	12	11	47 14	26 32.7
12	10	33 26	26 47.8	12	11½	48 37	26 43.9
12	11	34 9	26 33.3	12	11	48 39	26 43.6
12	10½	34 14	26 30.3	12	10	49 7	26 47.4
12	9	34 25	26 44.7	12	11	49 13	26 40.0
12	9	34 46	26 41.8	12	10	50 19	26 39.6
12	10	35 23	26 44.3	12	11	50 26	26 40.8
12	10	36 0	26 44.4 :	12	10½	50 53	26 33.7
12	11	36 40	26 35.3	12	10	51 18	26 36.1
12	11	37 9	26 47.7	12	9	51 25	26 41.4
12	11½	37 13	26 35.3	12	11	51 31	26 43.6
12	11½	37 21	26 44.7	12	10	52 51	26 31.5
12	10½	37 56	26 46.8	12	12	53 10	26 33.8
12	11	39 6	26 45.6	12	12	53 15	26 33.5
12	10	39 20	26 48.6	12	11	53 39	26 35.7 †
12	11	39 48	26 48.7	12	9½	54 24	26 44.4
12	10½	40 2	26 45.1	12	11	54 53	26 33.0
12	11	40 6	26 49.0	12	11	56 18	26 38.7
12	11	40 12	26 48.5	12	11	57 3	26 31.9
12	10½	41 0	26 41.5	12	11½	58 54	26 40.9
12	10½	41 4	26 43.0	12	10½	59 7	26 33.6
12	11	41 6	26 45.4	12	10½	5 59 26	26 31.9
12	9½	41 10	26 49.8	12	10	6 0 15	26 30.9
12	10	41 22	26 43.3	12	10½	2 48	26 42.4
12	10½	42 26	26 32.2	12	11	3 8	26 44.2
12	11	42 30	26 31.2	12	11	3 51	26 41.2
12	11	42 48	26 33.8	12	11	3 53	26 38.2 §
12	11	43 32	26 32.0	12	11	37 47	25 1.6
12	11½	44 24	26 43.6 °	6	11	39 35	25 27.7
12	11	45 28	26 35.4	6	10	39 42	25 29.9
12	11½	5 45 37	+26 33.9	6	10½	6 40 8	+25 26.2

° An 11½ s.

† Double.

‡ L. of triple.

§ (4).

OBSERVED IN FEBRUARY, 1855.

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Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
6	11	^{h. m. s.} 6 40 19	+25° 27.3	6	11	^{h. m. s.} 6 50 52	+25° 9.7
6	10	40 53	25 18.6	6	10½	51 3	25 9.7
6 12	10	41 0	25 12.4	12	10	51 21	24 52.8
6	11	41 3	25 13.1	6	11	51 34	25 11.0
6	11	42 0	25 13.7	6	10½	51 53	25 13.6
12	11	42 13	25 1.8	12	11	51 59	24 54.3
12	10	42 14	24 51.8	6	11	52 3	25 16.4 :
12	9½	42 32	24 47.9	6	11	52 10	25 14.5
6	9½	42 37	25 23.7	12	9½	52 20	24 52.6
6	10	42 54	25 29.4	12	11	52 23	25 6.5
6	11	43 28	25 21.1	6	11	52 55	25 17.3
6	10	43 46	25 16.2	6	10	53 9	25 26.1
6	10½	44 3	25 23.3	12	11	53 13	25 5.0
12	11	44 12	25 3.8	12	10	53 34	25 6.3
12	12	44 24	25 5.3	12	10½	53 43	25 5.6
12	11	44 31	25 5.1	12	9½	53 44	24 59.8†
12	10	44 58	24 56.4	6	10	53 56	25 27.5
6	11½	44 59	25 14.3	12	10½	54 7	25 7.8
6	10	45 2	25 12.3	12	9½	54 17	25 3.8
6	10	45 4	25 26.1	6	11	54 25	25 28.4
6	11	45 43	25 28.5	6	10½	54 53	25 26.1
12	11	45 57	25 7.3 :	6	10½	55 15	25 21.3
12	10½	46 0	24 52.1 :	12	11	55 15	25 8.8
12	11	46 1	25 5.7	6 12	10	55 32	25 8.3
6	9	46 36	25 25.4	13	10	55 40	17 50.9
12	10	47 2	25 4.3	13	10	56 1	18 8.6
12	11	47 34	25 8.8	12	9½	56 16	24 56.8
12	9	47 42	25 0.4	6	12	56 31	25 14.1†
6	11	48 31	25 24.1 *	12	11½	56 33	24 57.6 :
6	11	48 32	25 25.6	6	11½	56 39	25 14.1
6	11	48 35	25 23.3	12	10½	56 44	24 54.5 :
12	10	49 0	24 58.5†	13	10½	56 47	18 2.9
6	10½	49 43	25 23.9	6	10½	56 52	25 14.1
12	9½	49 52	25 2.2	13	10½	57 14	18 6.0
6	11	6 49 57	+25 25.7	6	10½	6 57 20	+25 23.3

* N. p. of double.

† (4).

† s. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
6	11	6 57 26	+25 22.3	13	10	7 1 51	+18 8.5
12	11	57 37	25 6.5	6	9½	2 3	25 27.1
6	11	57 45	25 24.8	15	11½	2 12	26 7.6
13	10½	57 45	17 54.3	15	11	2 14	25 55.1
12	10	57 57	25 1.3	13	11	2 22	18 7.5
6	11	58 3	25 23.4*	6	11½	2 25	25 17.4
12	11	58 4	24 52.1	13	10	2 29	18 5.6
13	11	58 8	17 55.3	6	9½	2 42	25 22.6
6	10½	58 15	25 26.2	13	11½	2 46	18 6.1
13	10½	58 29	17 57.6	6	10	3 1	25 21.9
6	10½	58 42	25 28.6	12	11½	3 2	25 4.9
15	11½	58 42	26 5.7	13	10½	3 3	18 3.8
15	12	58 46	25 56.0	15	9	3 5	26 4.1
15	11½	58 46	26 5.5	12	10½	3 8	24 57.9
13	10½	58 49	17 54.4	12	10½	3 13	25 5.5
15	11	59 2	26 4.9	13	11	3 17	17 52.1
13	10	59 11	17 54.3	12	11	3 18	25 5.8
12	11	59 33	25 0.5	15	11½	3 24	25 51.4†
6	10½	59 38	25 26.4	12	10½	3 42	24 56.8
15	11	6 59 41	25 55.1	6	11½	3 44	25 25.5
12	10	7 0 10	25 1.9†	12	10	3 46	24 56.9
12	11	0 17	24 54.5	6	11	3 54	25 10.2
13	11	0 18	17 54.8	6	11	4 6	25 15.1
6	11	0 19	25 11.0	13	11	4 19	17 55.9
13	11	0 23	17 55.6	15	10	4 33	26 7.5
15	9½	0 35	25 52.6	13	9	5 8	18 1.0§
6	11	0 42	25 17.6†	15	11	5 9	25 56.2
13	11	0 43	17 58.6	15	9	5 16	26 10.6*
13	11	0 43	17 53.5	12	10½	5 27	25 1.5†
13	9	0 44	17 53.6	6	11	5 29	25 17.6†
15	11½	0 58	26 0.6	15	10	5 37	26 8.8
6	11½	1 27	25 15.4	13	10	5 38	18 6.7
6	9	1 29	25 17.0	13	9	5 51	18 7.1
12	12	1 34	25 7.9	12	11	5 56	25 3.8
12	10½	7 1 51	+25 5.4	13	11	7 5 58	+18 6.3

* Small companion.

† (4).

‡ An 11½ p.

§ (4). L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
12	10 $\frac{1}{2}$	^{h. m. s.} 7 6 1	[°] +24 56.1	13	9 $\frac{1}{2}$	^{h. m. s.} 7 9 51	[°] +18 8.7 †
15	11	6 13	26 8.7	15	10 $\frac{1}{2}$	9 53	26 3.7
15	9 $\frac{1}{2}$	6 36	26 9.0	12	10	10 9	24 51.9
13	11	6 43	17 55.1	15	10	10 46	25 58.4 †
13	11	6 49	17 54.0	13	10	10 47	18 4.0
13	11	6 53	18 5.8	6	11	10 48	25 24.3
12	9 $\frac{1}{2}$	6 57	24 55.5	12	11	10 48	24 54.7
12	10 $\frac{1}{2}$	7 0	24 51.4	6	11	10 53	25 25.7
6	11	7 3	25 13.9	13	11	10 54	18 0.8
6	11	7 10	25 12.9	12	11	10 55	24 57.7
12	9 $\frac{1}{2}$	7 21	25 8.9	12	11	10 55	24 54.5
15	11	7 30	26 3.0	15	11 $\frac{1}{2}$	10 55	25 53.6
15	11	7 37	25 54.3 *	15	10	10 56	25 50.2
13	9	7 47	17 57.1	6	11	11 7	25 25.2
13	10 $\frac{1}{2}$	7 58	18 5.2	12	10	11 10	24 56.9
15	11	8 2	26 3.4	15	10 $\frac{1}{2}$	11 24	26 1.8
13	11	8 7	18 5.6	6	9 $\frac{1}{2}$	11 28	25 15.4
15	11 $\frac{1}{2}$	8 14	26 1.2	15	9	11 51	25 56.5
15	11	8 21	26 0.9	6	11	11 58	25 13.0
12	11	8 24	24 57.6	12	9 $\frac{1}{2}$	11 58	24 54.3:
15	10	8 26	25 52.4	13	10	12 14	17 58.3
12	10	8 27	24 54.3	6	10	12 17	25 13.8
6	9 $\frac{1}{2}$	8 36	25 20.8 †	13	11 $\frac{1}{2}$	12 32	17 51.8
15	11	8 38	25 51.4	6 12	9 $\frac{1}{2}$	12 38	25 11.4
6	11 $\frac{1}{2}$	8 48	25 15.1	13	11 $\frac{1}{2}$	12 38	17 53.2
6	11 $\frac{1}{2}$	8 55	25 15.7	12	10	12 40	24 55.1
12	11 $\frac{1}{2}$	9 1	25 5.1	6	10 $\frac{1}{2}$	12 43	25 11.1
12	11 $\frac{1}{2}$	9 2	25 6.6	15	11 $\frac{1}{2}$	12 58	25 50.8
12	10 $\frac{1}{2}$	9 4	25 3.5	12	9 $\frac{1}{2}$	13 21	25 12.5
6	11	9 10	25 16.0	13	10	13 24	17 54.1
6	12	9 15	25 16.5	15	11 $\frac{1}{2}$	13 37	26 4.7
6	11 $\frac{1}{2}$	9 25	25 17.9	12	9 $\frac{1}{2}$	13 53	25 4.7
15	9	9 31	25 51.7	13	10	13 56	18 12.1
13	10	9 38	18 9.1	15	10 $\frac{1}{2}$	13 57	25 50.4
13	10	7 9 49	+17 55.8	13	11	7 13 59	+17 56.8

* Double.

† (4).

† A 9 $\frac{1}{2}$ N.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
15	10½	7 14 11	+25 54.1	17	10	7 17 9	+24 43.6
15	10½	14 20	26 1.2	15	11	17 26	25 54.4
6	11	14 35	25 27.5	15	11½	17 28	25 56.0
6	12	14 37	25 22.0	17	9½	17 29	24 36.2
13	11	14 37	17 56.8	15	11	17 32	25 53.2
6	11½	14 39	25 26.0	12	11	17 34	24 57.1
6	11½	14 41	25 27.3	13	9	17 36	17 56.2
13	10	15 1	18 8.6	6	10	17 55	25 27.7
12	9½	15 3	25 2.2	15	11	18 2	25 55.7
15	10½	15 5	25 55.0	6	11	18 19	25 20.6*
12	11	15 14	25 5.2	15	9	18 25	26 5.7
12	11	15 15	25 6.3	15	9½	18 27	26 9.1
15	11	15 17	25 52.1	17	10	18 30	24 45.7
12	11½	15 28	25 4.8	12	9½	18 45	25 2.0
13	11½	15 41	17 53.7	6	10	18 49	25 20.9
17	11	15 47	24 35.4	6	10½	18 53	25 25.3
17	11	15 48	24 37.0	12	11	18 55	24 54.4
13	9½	15 57	17 55.9	17	11½	18 55	24 46.2
6	11½	16 4	25 25.6	13	11½	18 56	18 5.6
13	11½	16 6	17 54.4	13	10	18 58	18 7.0
17	9	16 7	24 48.3	15	11½	19 2	25 52.0
6	11½	16 11	25 27.0	16	9	19 2	20 26.7
6	11	16 17	25 20.1*	12	11	19 7	24 56.0
13	10	16 21	17 52.8	12	10	19 8	25 5.8
12	9½	16 25	24 58.9*	6	11½	19 11	25 21.2
15	11½	16 27	26 5.3	6	10	19 20	25 16.5
12	9½	16 36	25 7.9	6	10½	19 27	25 24.7
6 12	11	16 41	25 10.0	12	9½	19 36	24 57.9
15	11½	16 44	26 5.0	17	9	19 38	24 34.7
13	11½	16 47	18 10.0	16	10	19 43	20 21.8
12	11½	16 49	25 6.0	16	11½	19 49	20 14.5
13	9½	16 51	18 2.0	15	11	19 50	26 1.9
13	9½	16 59	18 1.9	15	11	19 50	25 49.2
13	10	17 7	18 1.8	16	11	19 50	20 11.4
15	11½	7 17 9	+26 3.9	13	10	7 19 51	+18 4.1

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
15	11	7 19 51	+25 53.3	15	11	7 24 3	+26 2.3
15	10	20 6	25 50.4	12	10	24 6	25 4.0
17	11	20 6	24 36.1	15	9	24 9	26 2.8
17	8	20 17	24 43.7	16	9	24 24	20 28.9
6	10½	20 37	25 15.3	16	11½	24 29	20 23.3†
6	11	20 37	25 28.4 :	13	10½	24 33	18 5.3
15	9½	20 47	26 4.9	13	10½	24 45	17 56.2
12	10½	20 51	25 8.1	16	9½	25 6	20 24.6
12	11	20 53	25 4.9	13	11	25 8	17 55.5
16	11	20 57	20 24.6	17	11	25 10	24 34.1
6	11	20 59	25 24.2	13	10½	25 12	17 55.4
16	11	21 6	20 30.5	6	11	25 13	25 13.1
6	10½	21 9	25 23.8	6	10½	25 25	25 11.1
16	10	21 18	20 17.1	17	10	25 25	24 35.4
6	11	21 19	25 24.6	12	10½	25 26	25 5.1
6	9½	21 50	25 28.5	17	10½	25 27	24 47.5
12	10	21 50	24 59.1 *	17	10	25 30	24 47.1
12	11	21 59	25 5.6	17	9½	25 31	24 37.4
12	11	22 6	25 5.6	12	10½	25 41	25 4.3
15	10	22 15	25 58.4†	16	10	25 47	20 25.3
12	10	22 18	25 6.3	15	11	25 52	25 56.1
13	11½	22 43	18 5.8	16	11	25 52	20 10.3
13	10½	22 44	18 2.8	15	11	25 54	26 3.3
13	11	23 3	18 7.2	15	10	26 7	25 53.4
12	10½	23 8	25 1.1	13	9½	26 12	18 6.7
6	10½	23 15	25 18.3†	13	9	26 15	17 59.0
16	11½	23 17	20 21.9	13	9½	26 16	18 1.4
15	11	23 24	26 1.5	15	11½	26 24	25 58.3
12	11	23 25	25 2.0	17	10	26 28	24 46.3
16	11	23 29	20 23.9	16	11	26 43	20 16.3
16	11½	23 37	20 23.5	17	10½	26 44	24 47.2§
6	10½	23 38	25 18.4†	17	10½	26 59	24 30.9
12	10½	23 38	24 56.6	17	11	27 12	24 48.6
13	10½	23 54	17 55.4	16	10	27 13	20 24.7
6	10	7 23 59	+25 15.7	16	11	7 27 39	+20 20.1

• Double.

† (4).

‡ L. of group.

§ L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
17	10½	7 27 41	+24 32.8	12	10	7 30 25	+25 9.4
6	11	27 43	25 12.8	13	10½	30 25	17 56.1
13	10	27 44	18 5.9	19	11½	30 25	17 16.0
15	11	27 45	26 3.8	19	11	30 26	17 11.4
17	10	27 47	24 45.1	16	10½	30 27	20 20.7
6	9	27 48	25 20.8*	17	11½	30 39	24 41.3
16	11½	27 51	20 24.2	17	11	30 43	24 45.9
16	11½	28 1	20 28.2	15	11	30 45	26 8.6
17	11	28 2	24 30.7	16	9½	30 51	20 17.5
13	10½	28 4	17 55.4	17	11½	30 51	24 41.3
17	11	28 6	24 44.8	19	10½	30 51	17 11.9
6	10	28 9	25 22.9	17	10½	30 52	24 46.8
15	11	28 12	25 51.7 :	6	10	30 57	25 22.6
13	10½	28 19	17 55.5	16	12	31 14	20 23.8
13	10	28 25	18 2.1	19	10½	31 22	17 28.3
13	11	28 30	17 53.7	16	10½	31 24	20 27.2
6	11	28 38	25 24.8	13	11	31 26	18 5.7 :
13	11	28 51	17 55.2	6	11½	31 30	25 16.0
6	11	29 16	25 27.9	13	11½	31 35	17 52.1
13	11	29 25	17 50.2	12	11½	31 37	25 6.3
16	11½	29 29	20 11.2	19	11½	31 38	17 26.6
15	10½	29 39	26 7.1	6 12	10	31 41	25 12.2
6	11	29 43	25 14.2 :	12	10	31 46	25 7.1
13	10	29 44	17 49.2	13	11	32 7	17 56.5
16	10½	29 54	20 24.7†	19	11	32 8	17 23.2
6	11	30 0	25 25.0	19	11	32 15	17 27.3
12	11½	30 3	25 9.2	19	10½	32 18	17 26.6
16	11	30 3	20 12.1	17	11	32 25	24 33.3
6	11	30 6	25 25.5	13	11	32 34	17 52.1
19	10	30 9	17 30.7	17	10	32 38	24 40.3
12	10	30 11	25 9.3	16	10	32 44	20 28.5
15	11	30 14	26 1.0	13	10½	32 54	17 55.4
13	11	30 16	17 54.7	17	10	32 58	24 49.2
13	10½	30 19	17 56.9	16	11½	32 59	20 12.7
19	11	7 30 23	+17 16.6	16	12	7 33 0	+20 18.5*

* (4).

† Small companion.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
17	10	7 33 5	+24 44.0	13	10½	7 36 6	+18 2.0
6	11½	33 15	25 24.5	12	9	36 26	25 5.6
16	11½	33 15	20 14.0	17	10½	36 27	24 47.3
17	10	33 20	24 48.4	19	9½	36 27	17 22.5
19	10	33 22	17 14.7	13	9½	36 31	18 6.2
17	10½	33 29	24 47.9	16	11	36 31	20 28.0
19	10½	33 29	17 13.2	16	11	36 40	20 27.2
19	10	33 51	17 28.5	12	11	36 42	24 55.3
6	10½	33 52	25 28.6	19	11½	36 43	17 24.2 :
13	8	33 54	18 2.6	12	11	36 50	24 54.8
19	10½	33 54	17 15.4	16	10½	36 52	20 17.1
13	10½	34 5	17 56.9	19	11½	36 56	17 24.1
13	10	34 11	17 59.7 *	12	10½	36 57	25 6.8 :
16	8	34 22	20 28.1	13	10½	36 59	18 3.1
16	11½	34 25	20 26.3	12	11½	37 6	24 54.0
17	10½	34 26	24 33.5	19	10½	37 12	17 14.0
17	10½	34 30	24 34.7	13	10½	37 28	17 55.5
6	12	34 32	25 26.4	17	11½	37 33	24 43.8
12	10	34 35	24 59.0	17	11	37 37	24 45.6
6	9½	34 37	25 28.5	17	11½	37 40	24 43.9
12	10½	34 37	25 8.3	13	10	37 42	17 55.2
12	9½	34 40	25 10.1	16	10½	37 42	20 16.3
12	10½	34 47	24 58.7	17	11	37 42	24 46.9
13	11	34 48	17 58.8	19	10½	37 48	17 8.0
19	11	34 58	17 14.8	16	11	38 5	20 18.1 *
16	11	34 59	20 23.5 †	12	9½	38 11	25 6.9
19	11½	34 59	17 15.0	12	9	38 23	25 8.5
13	10	35 5	18 8.5	16	11	38 36	20 12.3
12	10½	35 6	24 51.5	13	10½	38 40	18 6.9
13	11	35 9	17 58.8	17	10	38 57	24 42.5
16	10	35 11	20 27.9	12	10½	39 2	24 53.6
13	11	35 12	18 5.0 †	17	12	39 7	24 42.6
19	9½	35 25	17 26.4	12	9½	39 8	24 56.2
12	11	35 42	25 8.9	17	10½	39 15	24 44.6
17	11	7 36 2	+24 30.9	12	11½	7 39 17	+24 55.5

* (4).

† A. 12th N. J.

‡ L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
17	10	7 39 32	+24 44.4	12	11	7 42 49	+25 6.5
13	10½	39 37	18 5.5	17	11	43 6	24 30.7
19	10	39 45	17 22.1	17	11	43 10	24 45.9
16	11	39 49	20 13.7	19	11½	43 16	17 17.5
16	11	39 49	20 11.9	12	10	43 19	24 51.2
16	11	39 50	20 20.9	19	11	43 21	17 16.6
12	10	40 7	24 52.3	16	11	43 42	20 17.7
16	11	40 7	20 16.6	19	11½	43 43	17 23.0
19	11	40 16	17 13.1	13	11	43 44	18 0.0
13	11	40 23	18 6.7	19	10	43 49	17 26.9
13	11	40 28	18 3.0	16	9	43 54	20 25.6
13	10	40 35	18 11.0	12	10½	44 3	24 55.3
19	11	40 47	17 23.5	12	11½	44 8	25 5.4
12	11½	40 50	25 8.4	16	9	44 13	20 25.2
12	11½	41 0	25 7.3	16	11½	44 34	20 15.3
17	11	41 4	24 35.7	13	10	44 36	18 4.4
17	10½	41 8	24 47.0	16	11	44 43	20 10.7*
17	10	41 14	24 48.0	12	9½	44 44	25 7.1
12	11½	41 16	25 5.2	13	11½	44 45	17 57.0
19	10½	41 21	17 11.7	19	10½	44 50	17 16.7
16	10	41 26	20 12.0	12	11½	44 57	25 8.7
16	11	41 30	20 21.9	13	11	45 1	17 55.3
13	9½	41 35	17 55.5	19	11	45 3	17 14.6
19	11½	41 49	17 25.0	19	11	45 13	17 17.0
16	10	41 50	20 22.8	12	10½	45 25	24 57.0
19	9	42 0	17 15.3	19	10½	45 39	17 12.1
12	9½	42 10	24 48.8	12	10½	45 40	24 52.2
16	10½	42 11	20 24.9	16	12	45 44	20 16.9
19	11	42 13	17 14.0	16	10½	45 50	20 10.1
16	10½	42 27	20 25.3	19	10	45 58	17 13.3
17	11	42 27	24 27.9	13	10	46 3	18 9.6
12	11½	42 30	24 54.6	13	9½	46 4	18 6.5
12	11	42 40	25 7.7	13	10½	46 8	18 6.5
13	10½	42 45	17 56.8	12	10½	46 24	25 7.9
12	10½	7 42 47	+24 53.5	12	11	7 46 28	+24 54.4

* An 11th N. p.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
16	12	^{h. m. s.} 7 46 36	+20° 15.0	16	11½	^{h. m. s.} 7 52 4	+20° 11.0
12	11	46 47	24 57.0	12	10½	52 5	25 4.9
13	12	47 8	18 5.3	16	11½	52 20	20 11.0
13	11	47 8	17 52.1	16	10	52 35	20 12.8
19	11½	47 11	17 22.7	19	11	52 45	17 13.8
19	11½	47 15	17 16.3	12	11	52 59	24 54.0
16	11	47 22	20 22.2	12	10	53 30	25 5.6
16	10½	47 24	20 22.2	16	11½	53 46	20 26.0
12	11	47 29	25 5.0	12	10½	53 58	24 56.2
19	10	47 34	17 24.3	16	10½	54 6	20 23.5
19	11	47 35	17 26.7	12	9	54 8	25 0.1
12	11	47 56	25 2.4	16	11½	54 26	20 26.7
13	11	47 56	18 8.8	12	11	54 36	25 0.0
13	11	48 0	18 9.0	12	10	54 44	25 7.2
13	10	48 4	17 55.7	16	10½	54 50	20 15.1
19	9½	48 28	17 22.9	12	10½	54 59	24 54.4
19	11½	48 47	17 14.7*	16	10½	54 59	20 26.8
19	11½	48 48	17 17.5	16	9	55 43	20 13.0
19	11½	48 52	17 16.9	16	10	55 54	20 26.1
19	9½	49 13	17 24.5	16	9½	56 8	20 18.0
16	10½	49 22	20 13.7	16	9½	56 10	20 30.6
19	10½	49 55	17 15.1	19	12	56 54	17 28.2
19	10½	49 56	17 24.7	19	11	57 16	17 24.8
12	11	50 4	25 8.1	16	11½	57 17	20 28.5
16	11	50 17	20 11.0	13	11½	57 19	16 19.2
19	10½	50 20	17 24.4	19	11	57 20	17 27.4
12	11½	50 23	25 6.5	16	10½	57 51	20 13.6
16	11	50 44	20 20.6†	19	10½	58 7	17 29.7
19	9½	50 45	17 22.4	19	10½	58 12	17 24.8
16	10½	50 53	20 25.8	12	11	58 13	25 8.2
12	9½	51 15	25 12.0	12	10	58 36	25 6.6
12	10	51 20	25 3.1†	12	9	58 40	25 10.1
13	10½	51 25	17 52.1	19	10½	58 43	17 22.0
12	11	51 53	25 8.8	19	10½	58 48	17 24.3
19	11½	7 51 54	+17 26.8	13	11	7 58 50	+16 24.6

* Double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
13	10	7 58 50	+16 27.0	13	11½	8 5 9	+16 27.9
16	11	58 53	20 11.5	12	10	5 11	24 53.4
13	11	58 56	16 12.7	15	11	5 17	24 2.7
12	9	59 5	25 8.6	13	11	5 26	16 11.8
13	11	59 19	16 21.4	19	11½	5 32	17 21.2
19	10	59 24	17 18.0	19	10½	5 38	17 12.5 :
19	10	7 59 41	17 11.9	13	11	5 40	16 10.9
13	9½	8 0 1	16 21.4	19	11	5 45	17 21.1
13	9½	0 30	16 29.0	13	11	5 56	16 13.0
12	10	0 33	25 2.5*	19	11½	5 57	17 19.2
13	9½	0 33	16 28.2	15	10½	6 1	23 57.8
12	10½	0 34	25 7.3	13	10½	6 10	16 13.6
19	10½	0 47	17 25.5	13	10	6 27	16 16.6
19	10½	1 22	17 21.5	13	11	6 39	16 13.3
12	9½	1 35	25 9.2	19	9½	6 40	17 15.2:†
12	9½	1 42	25 6.8	15	10	6 46	24 1.5
15	10½	2 8	24 6.1	13	10½	7 46	16 17.5
13	10½	2 9	16 15.8	13	11½	7 47	16 10.4
13	11	2 13	16 20.8	13	11	8 4	16 14.9
15	11	2 15	23 57.4	17	11	8 33	23 12.5
19	10½	2 15	17 22.4	15	10	8 46	24 13.0
12	11½	2 16	25 2.9	13	10½	9 7	16 26.7
13	11	2 16	16 17.3	19	11	9 14	17 12.2
19	11½	2 22	17 23.9	13	10	9 18	16 21.6
15	11	2 31	23 58.2	13	10½	9 26	16 28.5
19	11½	3 16	17 27.0	17	11½	9 30	23 16.2
19	11½	3 21	17 28.5	15	10	9 32	24 2.8
12	9½	3 25	24 54.5	19	11½	9 50	17 32.2
13	11	3 54	16 14.5	19	11	9 59	17 10.6
13	9½	3 55	16 23.3	15	10	10 12	24 10.4
19	10½	4 12	17 25.0	15	11	10 15	24 6.6
15	10	4 18	23 57.4	17	11½	10 34	23 13.5
15	11	4 31	24 3.9	17	10	10 45	23 19.1
15	10½	4 49	23 57.3	19	11½	10 57	17 23.9
12	10	8 4 51	+24 58.0	19	12	8 10 59	+17 24.5

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
13	11	^{h. m. s.} 8 11 3	+16 18.0	19	11	^{h. m. s.} 8 16 34	+17 18.3
15	11	11 7	24 4.6	13	11	16 48	16 27.8
15	11	11 8	24 10.9	19	10½	16 48	17 21.6
19	11	11 11	17 25.5	15	9	16 52	24 8.6
15	11	11 14	24 10.2	17	9½	16 53	23 19.7
17	11	11 18	23 22.9	19	9	16 55	17 29.5
13	10½	11 20	16 25.7	15	11	16 57	24 9.2
17	11	11 36	23 17.4	15	11	17 3	24 8.7
13	9½	11 39	16 18.4	15	11	17 15	24 8.0
19	9½	11 40	17 28.5	17	9½	17 19	23 26.5
17	10	12 8	23 32.5	17	9½	17 28	23 26.8
19	11	12 13	17 29.3	15	10	18 1	23 52.5
15	10½	12 26	23 54.1	15	9½	18 7	23 58.1
15	9	12 31	24 7.9	19	10½	18 9	17 12.2
17	10	12 33	23 28.0	19	10	18 9	17 10.9
17	11	13 5	23 13.8	13	12	18 28	16 11.5
19	12	13 23	17 27.4	17	10	18 40	23 20.6
19	11½	13 30	17 23.4	17	11	18 52	23 17.2
19	11½	13 34	17 20.2	17	10½	18 53	23 15.4
19	11½	13 35	17 24.5	15	11½	18 57	24 4.9
13	9½	13 38	16 23.9	17	9	18 58	23 19.9*
13	9½	13 39	16 19.3*	17	11	19 10	23 25.2
13	9	13 48	16 26.2	15	11	19 11	24 7.2
15	9½	13 51	24 2.6	17	10½	19 22	23 23.8
17	10½	14 36	23 18.7	15	11	19 32	23 58.5
17	11	14 47	23 27.2	19	12	19 52	17 24.7
15	11½	14 52	23 59.3	15	11	20 10	24 6.3
13	11	14 54	16 27.8	19	12	20 10	17 18.5
19	10½	14 55	17 8.6	15	9½	20 18	24 4.9
13	11½	15 2	16 27.5	19	10	20 43	17 22.1
17	10½	15 20	23 22.9	19	10	20 43	17 13.9†
17	10½	15 57	23 14.6	15	9	20 48	24 6.1
17	11	15 58	23 18.7	19	11	20 57	17 11.9
13	11	16 20	16 27.1	15	10½	21 5	24 0.4
13	10	8 16 30	+16 27.7	15	10½	8 21 6	+24 6.4

• (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	[°]			^{h. m. s.}	[°]
17	9 $\frac{1}{2}$	8 21 10	+23 15.6	17	11 $\frac{1}{2}$	8 26 27	+23 26.7
17	11 $\frac{1}{2}$	21 15	23 16.0	17	9	26 28	23 13.7
19	10 $\frac{1}{2}$	21 24	17 18.0	15	10	26 47	24 5.0
17	11	21 32	23 16.5	15	11	26 50	24 8.6
15	9	21 33	23 59.0	17	9 $\frac{1}{2}$	26 51	23 22.5*
17	11	22 18	23 27.2	15	10 $\frac{1}{2}$	26 58	24 10.6
19	10 $\frac{1}{2}$	22 24	17 27.9	19	12 $\frac{1}{2}$	27 19	17 29.0
15	10	22 25	24 7.5	17	11 $\frac{1}{2}$	27 21	23 19.0
15	11	22 41	23 58.4	15	9	27 24	23 58.4
19	10 $\frac{1}{2}$	22 45	17 26.6	17	10	27 48	23 22.6*
17	10 $\frac{1}{2}$	22 47	23 25.9	19	10	27 55	17 12.4
17	10 $\frac{1}{2}$	22 52	23 15.1	19	10 $\frac{1}{2}$	28 2	17 25.1
15	10 $\frac{1}{2}$	23 17	24 6.8	17	10	28 11	23 28.7
17	11	23 32	23 19.3	15	11 $\frac{1}{2}$	28 19	23 59.0
15	11 $\frac{1}{2}$	23 41	24 5.8	19	10 $\frac{1}{2}$	28 32	17 27.0
17	11 $\frac{1}{2}$	23 47	23 28.9	15	9 $\frac{1}{2}$	28 39	24 4.7
19	11 $\frac{1}{2}$	23 52	17 15.2	19	11	28 41	17 27.3
19	11 $\frac{1}{2}$	23 53	17 10.9	15	11	28 46	23 58.6
19	11 $\frac{1}{2}$	23 53	17 28.8	19	9 $\frac{1}{2}$	29 2	17 27.8
15	10	24 4	24 0.0	6	10	29 3	14 33.2
15	10	24 8	23 56.5	6	10 $\frac{1}{2}$	29 9	14 36.4
17	11 $\frac{1}{2}$	24 9	23 28.2	6	11	29 12	14 33.6
15	10	24 10	24 0.6	6	11	29 20	14 39.9
17	11	24 20	23 23.3	17	11	29 24	23 15.0
17	10	24 41	23 23.0	6	11	29 26	14 35.5
19	11	24 43	17 14.0	17	11	29 33	23 15.0
19	11	24 49	17 12.2	15	10 $\frac{1}{2}$	29 41	24 9.3
19	10 $\frac{1}{2}$	25 13	17 15.3	17	10 $\frac{1}{2}$	29 50	23 17.4
17	11 $\frac{1}{2}$	25 20	23 28.3	19	10	29 53	17 26.5
15	9 $\frac{1}{2}$	25 22	24 12.8	19	11	30 2	17 18.7
15	10 $\frac{1}{2}$	25 32	24 10.0	17	9 $\frac{1}{2}$	30 4	23 24.8
19	9	25 38	17 27.3	19	10 $\frac{1}{2}$	30 5	17 14.3
17	10	25 39	23 25.8	19	11	30 15	17 26.7
15	10 $\frac{1}{2}$	25 51	24 13.8	15	11 $\frac{1}{2}$	30 20	24 8.7
19	9	8 26 5	+17 30.6	15	11	8 30 26	+24 7.9

* (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
6	11½	^{h. m. s.} 8 30 36	[°] +14 33.5	19	11	^{h. m. s.} 8 33 23	[°] +17 11.1
15	10½	30 38	24 7.9	19	11	33 29	17 16.0
6	12	30 39	14 39.6	15	9½	33 33	23 55.6
6	10	30 44	14 49.5	19	11½	33 45	17 21.9
15	10½	30 54	23 59.9	15	11	33 57	23 55.4
15	10	30 57	24 9.2	15	11	33 59	23 58.8
13	10	31 7	13 59.7*	13	9½	34 9	14 5.2
15	9½	31 8	23 52.0 :	6	11	34 16	14 31.4
19	11	31 10	17 22.2*	19	11	34 30	17 25.8
6	10½	31 22	14 36.5	6	9½	34 35	14 38.8
13	10	31 26	14 2.6*	19	11½	34 43	17 25.7
13	11½	31 35	14 2.7*	19	9½	34 49	17 25.9
19	11½	31 37	17 11.6	17	11	34 51	23 12.4
15	10	31 43	24 9.6	13	11½	34 53	14 5.7
6	10	31 44	14 31.5	19	11½	34 58	17 18.8
19	11½	31 44	17 19.1*	19	10½	35 20	17 22.4
6	9½	31 53	14 38.0	6	11	36 6	14 34.2
17	11½	31 54	23 25.9	6	12	36 11	14 33.8
19	11	31 58	17 18.7*	13	10	36 16	13 52.9
13	10½	32 3	14 0.0*	13	10	36 24	13 54.8
6	11	32 16	14 33.7	19	9	36 35	17 20.8
15	11	32 24	24 10.7 :	6	10	36 38	14 35.3
15	12	32 33	24 10.6	6	10½	36 39	14 38.3
6	10½	32 34	14 37.2	19	11½	36 45	17 27.8
6	10	32 34	14 34.5	13	10	36 53	14 3.8
17	11	32 41	23 28.3	19	11½	36 59	17 25.2
17	11	32 44	23 25.9	19	9	37 2	17 29.2
17	9	32 45	23 22.8	13	10½	37 6	14 10.0
19	10	32 52	17 18.9*	21	11	37 20	20 13.9†
6	10½	33 7	14 33.1	6	11	37 24	14 36.7
13	10	33 8	14 3.0	21	10½	37 37	20 29.2
13	9½	33 14	14 7.2	19	11	37 54	17 13.7
13	9½	33 17	14 7.9	6	12	37 58	14 36.2
15	11	33 19	23 58.8 :	19	12	37 58	17 12.9
6	10½	8 33 23	+14 33.2	13	11½	8 38 18	+13 54.5

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
13	11½	^{h. m. s.} 8 38 19	[°] +13 54.7	20	10½	^{h. m. s.} 8 42 8	[°] +17 41.4
19	11½	38 33	17 23.8	19	10	42 10	17 16.2§
21	10	38 51	20 20.8	6	10½	42 14	14 38.9
19	9	39 0	17 31.9	21	12	42 20	20 12.5
19	11	39 2	17 23.6	13	10	42 25	14 8.5
19	11½	39 12	17 23.6	6	11½	42 30	14 35.6
6	10½	39 15	14 34.8	13	10½	42 30	14 2.0
19 20	9½	39 26	17 32.3	20	10	42 31	17 41.3
6	10	39 27	14 36.9	6	11½	42 32	14 36.9
13	9	39 28	13 59.9	6	11½	42 33	14 35.0
13	10	39 29	13 52.1*	6	10½	42 36	14 38.8
20	11½	39 31	17 35.3	13	10½	42 50	14 4.5
13	11	39 34	14 4.2	13	11	42 51	14 10.7
21	10	39 37	20 13.4	21	11	42 59	20 13.1
20	10½	39 50	17 46.6†	21	12	43 16	20 14.5
13	11	40 4	14 8.2	19	12	43 18	17 15.8
19	9½	40 5	17 25.1	21	11	43 23	20 13.7
6	10	40 10	14 38.0	19	11	43 29	17 15.9
20	11	40 14	17 38.5	20	10	43 35	17 38.4
6	10½	40 23	14 32.1	19	11	43 54	17 26.5
19	10	40 23	17 21.8	19	11	43 58	17 17.1
19	10½	40 49	17 22.0	20	11½	44 0	17 44.3
21	10½	40 51	20 13.1	20	11½	44 1	17 34.7
21	12	41 0	20 18.1	6	9½	44 2	14 41.1
6	10½	41 4	14 35.0	19	10½	44 6	17 22.5
21	11½	41 6	20 26.6	6	11	44 10	14 37.9
13	10½	41 12	13 51.7	13	11½	44 10	13 57.4
6	11	41 14	14 34.8	13	11½	44 10	14 5.4
21	11	41 20	20 18.3‡	6	11	44 11	14 36.9
19	10½	41 21	17 12.6	19	10	44 30	17 29.9
20	11½	41 37	17 46.8	13	11	44 38	14 8.5
19	11	41 47	17 11.7	6	11	44 39	14 36.1
20	10	41 53	17 48.2	6	9½	44 41	14 32.6
21	11½	42 4	20 13.2	21	11½	44 52	20 10.7
21	12	8 42 6	+20 17.1	21	11½	8 45 13	+20 22.9

* Small companion.

† An 11th p.

‡ (4).

§ An 11th s.f.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
13	11	8 45 14	+14 12.0	20	11½	8 48 18	+17 37.4
13	10½	45 26	14 12.1	13	12	48 20	14 6.9
6	11½	45 30	14 33.8	19	11½	48 21	17 25.9
16	11	45 33	17 9.6	21	12	48 21	20 11.7
19	11	45 40	17 13.8	21	12	48 22	20 16.1
21	9	45 41	20 8.4	16	9½	48 24	16 54.4
20	11½	45 49	17 31.9	16	11	48 24	17 11.5
16	11	45 52	16 55.7	20	10½	48 26	17 51.7
16	10	45 54	16 52.5	19	11	48 33	17 14.1
19	10½	45 56	17 28.8	6	11½	48 39	14 37.5
16	12	45 57	16 58.1	13	11½	48 39	14 5.4
19	9½	45 57	17 13.9	19	11	48 58	17 16.2
19	11	46 1	17 25.3	16	11½	49 6	17 7.9
6	10	46 8	14 46.8	6	9½	49 8	14 43.2
13	11	46 10	13 55.7	6	9	49 17	14 47.4
6	10	46 24	14 49.3	16	8	49 18	17 6.4
20	12½	46 34	17 47.8	16	11	49 21	17 8.6
20	12	46 46	17 45.7	13	9½	49 34	13 59.7*
21	10	46 50	20 16.1	20	12	49 34	17 50.3
21	10½	46 54	20 23.9	21	11½	49 41	20 25.6
13	10½	46 55	13 54.9	20	11½	49 47	17 42.0
19	11½	46 55	17 21.9	13	11	49 48	13 58.6
16	11½	47 6	16 55.6	19	10½	49 59	17 14.1
16	10½	47 13	17 0.0	19	10½	50 3	17 22.9
13	9½	47 15	13 56.7	19	11½	50 8	17 13.4
16	11	47 22	17 6.4	20	11½	50 13	17 49.1
13	11	47 25	13 56.5	20	11	50 15	17 46.2
19	11	47 27	17 26.2	6	10½	50 17	14 48.5
6	11	47 31	14 50.6	21	9½	50 18	20 22.8
16	10	47 33	17 8.0	6	11½	50 26	14 43.5
20	10	47 45	17 52.6	13	9½	50 31	13 58.4
21	12	47 56	20 24.6	21	12	50 51	20 24.4
13	11	47 57	14 4.8	16	11½	50 53	16 54.3
20	10½	48 4	17 31.5	13	11	50 54	14 2.5
13	11	8 48 11	+14 6.3	13	11	8 51 0	+14 6.7

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] ['] ^{''}			^{h.} ^{m.} ^{s.}	[°] ['] ^{''}
13	11	8 51 7	+14 8.4	16	10½	8 53 48	+16 57.8
16	10	51 9	16 55.5	21	11½	53 52	20 24.7
20	11	51 14	17 51.0	16	10½	53 57	17 4.4
19	11	51 17	17 14.7	20	10½	53 57	17 42.5
20	11	51 26	17 44.8	13	11	54 8	14 2.4
20	10	51 29	17 37.4	6	11½	54 9	14 38.2
20	10½	51 29	17 51.7	19	10½	54 12	17 12.7
21	11	51 34	20 16.0	13	11	54 13	13 59.0
21	10½	51 35	20 23.2	19	10	54 18	17 14.0 :
6	11½	51 36	14 45.8	21	11½	54 26	20 21.0
16 19	11	51 36	17 13.4	21	10	54 26	20 23.5
13	11½	51 45	14 8.4	6	12	54 30	14 38.9
19	11	51 58	17 13.0	6	11	54 40	14 38.8
21	10½	52 7	20 27.5	16	10	54 44	16 55.8
21	10½	52 11	20 26.0	16	10½	55 9	17 3.6
6	10	52 13	14 45.3	19	10	55 19	17 15.9
16 19	9½	52 13	17 8.9	6	10	55 20	14 38.3
21	10½	52 16	20 22.6	19	11	55 20	17 28.7
6	11	52 24	14 39.1*	20	11	55 20	17 32.9
16	11	52 33	16 56.4	21	11	55 28	20 29.4
21	10½	52 35	20 26.8	21	10½	55 33	20 20.0
6	11	52 43	14 35.7	20	10½	55 36	17 41.7
20	10½	52 43	17 39.6*	16	12	55 37	16 58.5
20	10½	52 54	17 46.7	13	11½	55 39	14 8.7
16	10	53 8	16 58.4	13	11½	55 48	14 4.1
19	10½	53 10	17 13.4	13	11	55 53	14 4.7
13	10	53 18	13 53.2	21	11	55 53	20 25.0
21	11½	53 20	20 11.5	20	10½	55 54	17 43.0
19	11½	53 21	17 17.0	20	10½	56 6	17 47.3
13	11½	53 30	14 0.0	16	10	56 8	17 1.0
13	11	53 31	13 55.6	21	11	56 8	20 31.3
21	10	53 33	20 21.8	6	11	56 9	14 33.7
19	11	53 37	17 29.3	6	10½	56 10	14 38.3
13	11	53 44	13 56.7	21	11½	56 14	20 25.3
13	10½	8 53 44	+13 54.6	19	10½	8 56 17	+17 27.9

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
19	10 $\frac{1}{2}$	^{h. m. s.} 8 56 35	+17 16.5	15	10 $\frac{1}{2}$	^{h. m. s.} 8 58 38	+13 3.8
19	12	56 37	17 21.9	6	11 $\frac{1}{2}$	58 39	14 34.8
16 19	10 $\frac{1}{2}$	56 45	17 10.1	6	11 $\frac{1}{2}$	58 40	14 34.5
21	9 $\frac{1}{2}$	56 46	20 25.3	12	10	58 43	13 18.2
6	12	56 48	14 43.8	21	11	58 48	20 15.4
21	11	56 51	20 28.9	21	11 $\frac{1}{2}$	58 48	20 12.3
20	11 $\frac{1}{2}$	56 59	17 49.8	21	9 $\frac{1}{2}$	58 49	20 25.6§
20	11	57 1	17 50.3	15	10 $\frac{1}{2}$	58 50	13 10.1
13	10 $\frac{1}{2}$	57 3	13 56.2	12	11	58 51	13 15.9
6	11 $\frac{1}{2}$	57 10	14 49.4	19	9 $\frac{1}{2}$	58 53	17 28.3
13	11 $\frac{1}{2}$	57 16	14 9.4	21	9 $\frac{1}{2}$	59 2	20 27.2
21	11 $\frac{1}{2}$	57 16	20 14.2	16 19	9	59 7	17 12.6
20	10	57 20	17 41.6*	13	11	59 13	13 53.0
16	10 $\frac{1}{2}$	57 34	16 55.2	13	11	59 14	14 2.5
13	11 $\frac{1}{2}$	57 37	14 10.2	20	9 $\frac{1}{2}$	59 15	17 50.1
13	11 $\frac{1}{2}$	57 38	14 5.9†	6	11 $\frac{1}{2}$	59 20	14 33.3
21	11 $\frac{1}{2}$	57 38	20 13.2	16	10	59 22	17 7.8:
15	10	57 42	13 3.4†	6	11 $\frac{1}{2}$	59 24	14 34.2
16	10 $\frac{1}{2}$	57 47	17 0.2	16	11	59 27	17 10.8
21	11 $\frac{1}{2}$	57 48	20 12.7	16 19	10 $\frac{1}{2}$	59 28	17 12.6
16	10 $\frac{1}{2}$	57 51	17 1.2	13	10 $\frac{1}{2}$	59 39	14 8.4
13	11	57 59	14 6.2	19	11	59 42	17 13.5
19	10	57 59	17 15.5	15	11	59 51	12 51.9
15	11	58 0	12 53.8	15	11 $\frac{1}{2}$	59 57	12 55.1
16	12	58 2	14 38.1	21	11 $\frac{1}{2}$	59 57	20 29.4
16	11 $\frac{1}{2}$	58 7	17 0.4	15	10 $\frac{1}{2}$	8 59 59	12 59.7
20	11	58 11	17 35.6	21	9	9 0 4	20 18.4
19	9 $\frac{1}{2}$	58 15	17 29.0	15	10 $\frac{1}{2}$	0 6	12 57.8
19	10 $\frac{1}{2}$	58 23	17 25.4	20	11	0 8	17 37.6
21	11	58 23	20 16.5	6	10	0 9	14 32.3
16	9 $\frac{1}{2}$	58 25	16 54.4	20	11 $\frac{1}{2}$	0 11	17 45.2
13	10	58 29	14 9.4	21	9	0 21	20 14.3
15	11 $\frac{1}{2}$	58 30	13 0.3	6	10 $\frac{1}{2}$	0 26	14 37.5
13	10	58 32	14 6.9	6	11 $\frac{1}{2}$	0 46	14 34.0
12	10 $\frac{1}{2}$	8 58 34	+13 14.7	6	11	9 0 50	+14 43.4

* (4).

† s. f. of double.

‡ Small companion.

§ L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
19	9 $\frac{1}{2}$	9 0 51	+17 16.7	16	9 $\frac{1}{2}$	9 2 59	+16 58.5
13	11 $\frac{1}{2}$	0 58	14 8.4	15	9 $\frac{1}{2}$	3 1	12 59.9*
20	11	1 2	17 31.4	6	10	3 2	14 52.6
13	10 $\frac{1}{2}$	1 4	14 3.7	12		3 8	13 21.4
15	10 $\frac{1}{2}$	1 5	13 6.5	16	11	3 8	17 10.4
21	10 $\frac{1}{2}$	1 7	20 11.1	12	11	3 11	13 26.2
16	12	1 9	16 57.6	6	10 $\frac{1}{2}$	3 22	14 46.3
16	10	1 12	16 55.2	21	10	3 23	20 14.7
21	9 $\frac{1}{2}$	1 13	20 21.5*	15	11 $\frac{1}{2}$	3 25	13 2.1
15	10	1 23	12 55.2	15	11 $\frac{1}{2}$	3 27	13 1.1
13	11	1 26	14 6.3	13	10	3 30	13 57.0
21	9 $\frac{1}{2}$	1 26	20 13.2	13	10	3 44	14 7.1
21	9 $\frac{1}{2}$	1 30	20 18.0	16	10 $\frac{1}{2}$	3 46	17 11.5
19	11 $\frac{1}{2}$	1 39	17 29.6	6	11	3 47	14 34.7
12	10 $\frac{1}{2}$	1 40	13 13.9	20	12	3 53	17 48.1
13	10 $\frac{1}{2}$	1 40	14 7.5	20	11 $\frac{1}{2}$	3 54	17 47.5
12	11	1 54	13 12.6	19	11 $\frac{1}{2}$	3 57	17 25.4
15	11 $\frac{1}{2}$	1 59	13 9.1	6	10	3 59	14 49.9
16	11	2 1	17 11.4	16	11 $\frac{1}{2}$	4 6	17 9.3
20	11 $\frac{1}{2}$	2 1	17 35.8	20	10 $\frac{1}{2}$	4 15	17 45.2
21	10	2 2	20 21.2	13	11	4 25	14 4.8:
6	9 $\frac{1}{2}$	2 5	14 49.2	20	11 $\frac{1}{2}$	4 25	17 43.6
12	11 $\frac{1}{2}$	2 5	13 14.3	16	11	4 29	17 1.4
13	10	2 10	13 58.8	20	10	4 29	17 51.8
15	10 $\frac{1}{2}$	2 12	13 8.4	19	10	4 33	17 12.9
16	12	2 21	17 7.3	6	10	4 35	14 47.9
19	10 $\frac{1}{2}$	2 23	17 28.4	15	9	4 43	12 51.8
13	10 $\frac{1}{2}$	2 30	14 7.4	13	11 $\frac{1}{2}$	4 46	13 55.5
19	10 $\frac{1}{2}$	2 31	17 22.1	15	10 $\frac{1}{2}$	4 50	12 49.1
15	11 $\frac{1}{2}$	2 32	13 2.7	20	10 $\frac{1}{2}$	5 11	17 46.4
12 15	9	2 36	13 9.8	20	11 $\frac{1}{2}$	5 23	17 33.6
12	10	2 39	13 16.2	15	10	5 26	12 51.9
20	11 $\frac{1}{2}$	2 43	17 48.1	19	10	5 31	17 22.6
20	11 $\frac{1}{2}$	2 48	17 44.8	21	10	5 32	20 22.0
16	11 $\frac{1}{2}$	9 2 57	+16 56.4	21	11	9 5 35	+20 17.4

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
13	10	^{h. m. s.} 9 5 38	[°] +14 6.9	20	11	^{h. m. s.} 9 7 56	[°] +17 45.8
21	10½	5 39	20 23.5	12	10	8 3	13 21.0*
15	11	5 41	12 57.3	16	10½	8 3	17 5.2†
20	10½	5 41	17 38.3	12	11½	8 7	13 15.0
15	10	5 45	12 53.4	21	9½	8 8	20 15.9
15	11	5 50	12 57.7	15	10	8 10	12 53.0
21	10½	5 52	20 23.7	12	10	8 11	13 12.2
21	11	5 54	20 23.3	19	11	8 16	17 27.9‡
13	9½	6 0	14 4.1	13	11	8 28	13 57.6
19	10½	6 0	17 17.9	16	11½	8 30	16 55.3
16	11	6 2	17 4.4	21	10	8 36	20 28.1
19	10½	6 12	17 26.1	15	10	8 42	13 3.8†
12	10	6 14	13 17.8	16	9½	8 42	17 8.7
12	10	6 15	13 15.0	15	10½	8 46	12 59.2
16	10½	6 19	16 50.7	12	9½	8 54	13 15.4
15	10½	6 25	13 3.5	20	11½	9 3	17 34.6
15	11	6 43	13 3.1	13	10½	9 21	13 53.0
19	10	6 45	17 22.7	20	11½	9 21	17 37.6
19	9½	6 46	17 9.5	12	11	9 28	13 16.6§
13	12½	6 47	13 56.6	20	10	9 29	17 38.6
13	11	6 48	14 1.8	20	11½	9 35	17 38.8
15	11	6 55	13 1.9	13	10	9 36	13 57.7
20	11½	6 55	17 45.7	12	11½	9 41	13 16.3
15	10	6 56	12 57.7	20	10½	9 50	17 37.9
13	11½	7 0	14 9.7	15	11	9 52	12 57.2
20	9½	7 1	17 45.2	19	12	9 52	17 23.4
15	11	7 5	12 56.1	16	11	9 56	16 56.4
13	11	7 6	14 3.1	19	10½	9 59	17 24.6
19	10	7 30	17 16.3	12	11	10 1	13 17.7
12	11½	7 32	13 24.4:	15	9½	10 5	12 57.1
16	10½	7 36	17 6.7	20	10½	10 7	17 37.1
16 19	10	7 36	17 9.2	19	11½	10 9	17 23.7
16 19	9½	7 36	17 12.0	12	10½	10 12	13 28.9
19	10½	7 52	17 21.2	16	10½	10 12	17 8.8
20	11	9 7 52	+17 44.8	12	10	9 10 27	+13 11.1

* (4).

† Small companion.

‡ Double.

§ s. s. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°]			^{h.} ^{m.} ^{s.}	[°]
16	10½	9 10 38	+17 6.4	16	11½	9 13 48	+16 56.3
15	11½	10 56	12 52.8	20	9½	13 49	17 51.1
19	11½	10 59	17 12.7	13	10	13 51	13 53.0
16	10	11 1	17 6.4	16	10	13 51	16 53.2
19	11	11 8	17 14.6	20	11½	14 15	17 32.8
15	9½	11 16	12 56.6	12	11	14 16	13 12.9
16	11	11 20	17 0.2	12	10½	14 21	13 14.1
13	9½	11 25	14 6.8	13	10½	14 22	14 9.0
19	10	11 26	17 21.8	20	11	14 28	17 33.5
12	11	11 30	13 25.9	19	11	14 30	17 18.1
20	11	11 43	17 49.6	19	11½	14 35	17 14.7
12	10	11 45	13 11.8	19	10½	14 43	17 19.2
20	11	11 47	17 44.3	12	11½	14 50	13 27.7
20	11	11 48	17 42.3	13	10	15 4	14 8.7
12	10	11 51	13 15.6	15	11	15 18	13 3.1
15	11	11 54	12 57.5	20	10½	15 20	17 46.4
20	11	11 55	17 45.6	15	11	15 21	12 53.2
20	11	11 57	17 42.1	16	11½	15 23	17 4.7
13	10	12 0	14 7.2	16	10	15 26	16 57.2
15	10½	12 2	13 3.9	12	10	15 27	13 21.6
16	10	12 10	17 10.0	12	10½	15 28	13 16.2
19	10½	12 28	17 28.5	15	11½	15 30	12 56.0
13	10½	12 29	14 8.5	12	10	15 31	13 25.1
13	11	12 33	14 5.8	15	11½	15 31	12 57.5
12	11½	12 43	13 28.7	20	11½	15 34	17 48.3
13	10½	12 54	13 55.8	16	10	15 35	16 59.9
19	11½	12 57	17 15.8	20	11	15 36	17 45.9
20	10	13 3	17 51.8	12	11	15 41	13 25.0
13	10	13 7	14 7.7	13	9	15 48	14 1.8*
15	11	13 12	13 4.5	19	11½	15 54	17 15.6
12	10	13 16	13 12.3	15	10	15 59	12 57.2
12	9½	13 24	13 11.8	15	11½	16 8	12 53.1
19	11½	13 27	17 14.8	19	9½	16 8	17 23.3
13	9½	13 38	13 50.7	15	9½	16 12	13 12.4
20	9½	9 13 38	+17 47.8	19	11	9 16 18	+17 17.2

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
20	10	9 16 28	+17 50.6	13	11 $\frac{1}{2}$	9 20 5	+14 4.3
20	10 $\frac{1}{2}$	16 29	17 44.3	16	12	20 9	17 10.5
20	11	16 43	17 49.0	16	10 $\frac{1}{2}$	20 14	17 11.1
13	11 $\frac{1}{2}$	16 50	14 2.3*	13	11	20 22	14 4.8†
13	10	16 52	14 5.4	15	10 $\frac{1}{2}$	20 23	12 49.4
19	10 $\frac{1}{2}$	16 52	17 16.1	12	10	20 24	13 11.1
19	10	16 52	17 12.6	19	11 $\frac{1}{2}$	20 29	17 21.8
15	11	16 55	12 52.4	13	11 $\frac{1}{2}$	20 33	14 5.7
16	11	16 55	16 55.0†	20	11 $\frac{1}{2}$	20 37	17 39.9*
15	10	17 5	12 49.9	15	11	20 39	13 4.6
13	11	17 22	13 56.6	20	8	20 42	17 36.3
15	11	17 31	13 14.0	16	11 $\frac{1}{2}$	20 46	17 3.2
16	9 $\frac{1}{2}$	17 35	17 3.2*	20	12	20 55	17 45.4
13	9 $\frac{1}{2}$	17 39	14 6.5	12	11 $\frac{1}{2}$	20 58	13 18.9
16	9 $\frac{1}{2}$	17 46	17 7.2	13	10	21 3	14 2.2
15	10	17 54	13 10.6	12	12	21 4	13 18.4
19	10	18 13	17 19.8	15	11	21 6	12 56.9
13	11	18 17	14 10.3	13	10	21 15	14 6.1
20	11	18 17	17 48.8	13	10	21 22	14 4.8
13	11	18 18	14 10.1	16	9	21 24	16 59.7
19	11	18 23	17 26.2	19	11	21 30	17 30.9
19	11	18 29	17 29.0	15	10 $\frac{1}{2}$	21 31	13 10.3
15	9	18 34	13 9.5	19	11	21 32	17 17.2
15	10	18 48	13 1.7	12	12	21 41	13 16.9
12 15	9 $\frac{1}{2}$	19 0	13 10.8	12	10	22 9	13 11.9
16	10	19 2	16 55.9	16	11 $\frac{1}{2}$	22 9	16 56.4
20	11 $\frac{1}{2}$	19 9	17 35.8	20	12	22 14	17 43.6
12	11 $\frac{1}{2}$	19 12	13 15.1	15	10	22 15	12 51.6
16	11	19 15	16 54.4	13	12	22 16	14 8.7
20	11 $\frac{1}{2}$	19 17	17 36.5	15	11	22 19	12 57.9†
16	11 $\frac{1}{2}$	19 29	17 11.7	20	10 $\frac{1}{2}$	22 21	17 43.3
19	11	19 37	17 22.8	20	10	22 21	17 49.6
19	12	19 39	17 22.9	19	10 $\frac{1}{2}$	22 33	17 12.8
12	11 $\frac{1}{2}$	19 40	13 13.7	16 19	11	22 35	17 15.1
13	12	9 19 40	+13 56.7	15	11	9 22 38	+12 53.2

* (4).

† L. of double.

‡ An 11 $\frac{1}{2}$ N.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
19	10	9 22 42	+17 18.8	20	11	9 25 1	+17 46.3
19	11 $\frac{1}{2}$	22 44	17 17.3	21	11 $\frac{1}{2}$	25 3	11 29.7
15	10 $\frac{1}{2}$	22 52	12 57.4	20	9 $\frac{1}{2}$	25 6	17 47.5
12	11	22 53	13 26.9	12	11 $\frac{1}{2}$	25 7	13 29.1
15	11	22 59	12 59.1	19	11	25 7	17 31.9*
12	9 $\frac{1}{2}$	23 4	13 18.3	15	10	25 10	13 7.9
12	9 $\frac{1}{2}$	23 5	13 21.6	15	10 $\frac{1}{2}$	25 14	13 9.8
13	11 $\frac{1}{2}$	23 6	13 59.6	12	9 $\frac{1}{2}$	25 18	13 28.5
15	9 $\frac{1}{2}$	23 6	13 10.0	16	12	25 18	16 54.6
12	11 $\frac{1}{2}$	23 10	13 24.6	20	10 $\frac{1}{2}$	25 29	17 43.8
16	11	23 10	17 15.1	16	10	25 37	16 59.8
20	11 $\frac{1}{2}$	23 19	17 51.2	21	10	25 39	11 23.8
15	10	23 28	13 2.7	21	10 $\frac{1}{2}$	25 50	11 25.4
19	10 $\frac{1}{2}$	23 30	17 25.3	12	9 $\frac{1}{2}$	25 51	13 24.6
12	11 $\frac{1}{2}$	23 31	13 19.0	20	10	25 51	17 47.5
13	10	23 32	14 3.7	21	10 $\frac{1}{2}$	25 55	11 28.6
20	11 $\frac{1}{2}$	23 34	17 48.2	12 15	10	26 1	13 8.8
16 19	10 $\frac{1}{2}$	23 54	17 11.8	13	10 $\frac{1}{2}$	26 5	14 7.7
19	9 $\frac{1}{2}$	23 54	17 26.5	16	10	26 13	17 8.8
20	11 $\frac{1}{2}$	24 3	17 46.6	15	11 $\frac{1}{2}$	26 17	13 2.1
20	11 $\frac{1}{2}$	24 5	17 44.7	20	11	26 19	17 49.3
13	11	24 9	13 59.9	16	12 $\frac{1}{2}$	26 30	17 6.7
16	11	24 12	17 11.8	13	9 $\frac{1}{2}$	26 34	14 3.7
19	11	24 15	17 16.4	15	11	26 43	12 54.9
21	8	24 15	11 26.2	12	12	26 46	13 14.4
20	11 $\frac{1}{2}$	24 16	17 47.7	16	11	26 47	16 59.6
21	11 $\frac{1}{2}$	24 16	11 27.9	20	10 $\frac{1}{2}$	26 47	17 46.4
13	11	24 19	14 2.4	21	11	26 49	11 22.7
15	10 $\frac{1}{2}$	24 20	12 53.1	15	11	26 50	12 56.8
20	12	24 24	17 44.8	13	11	26 57	13 56.0
12	11	24 45	13 28.4	21	12	26 58	11 13.7
21	11 $\frac{1}{2}$	24 46	11 29.9	20	11	27 2	17 46.4
21	11	24 48	11 31.7	19	10 $\frac{1}{2}$	27 4	17 12.6
12	11 $\frac{1}{2}$	24 50	13 29.6	21	9 $\frac{1}{2}$	27 4	11 12.6
15	11	9 24 56	+13 1.7	19	11	9 27 9	+17 18.3

* Small companion.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
19	10 $\frac{1}{2}$	9 27 14	+17 14.6	15	9 $\frac{1}{2}$	9 29 36	+13 8.6
12	10	27 22	13 16.7	15	10 $\frac{1}{2}$	29 46	13 3.2
20	9 $\frac{1}{2}$	27 34	17 41.6	16	11	29 52	16 57.3
20	11 $\frac{1}{2}$	27 39	17 37.4	16	11	29 55	16 59.4
12	11	27 41	13 16.5	16	12	29 57	17 1.8
13	11	27 46	13 52.6	21	10	30 3	11 9.4
20	10	27 50	17 35.9	20	10 $\frac{1}{2}$	30 19	17 36.2
20	10 $\frac{1}{2}$	27 51	17 39.1	15	11 $\frac{1}{2}$	30 38	12 56.3
15	10 $\frac{1}{2}$	27 59	12 53.6	19	11	30 39	17 25.8
19	10	28 5	17 30.4	12	11	30 43	13 26.6
20	11	28 6	17 34.3	15	9 $\frac{1}{2}$	30 48	12 53.4
15	11	28 7	12 58.0	21	11	30 48	11 27.5
12	10	28 8	13 14.4	19	10	30 49	17 30.1
13	10	28 8	13 58.1	12	9	30 52	13 22.7*
15	11 $\frac{1}{2}$	28 8	12 52.7	13	10	30 55	13 59.6
16	11 $\frac{1}{2}$	28 9	16 54.9	15	11 $\frac{1}{2}$	30 56	12 54.4
13	10	28 27	14 9.2	21	11 $\frac{1}{2}$	31 0	11 27.5
21	10	28 27	11 26.6	20	11	31 2	17 38.4
12	11	28 31	13 18.8	12	10 $\frac{1}{2}$	31 5	13 29.8
16	11	28 32	17 1.4*	16	11	31 8	16 55.6
19	10	28 38	17 9.7	19	10 $\frac{1}{2}$	31 11	17 23.3
15	9	28 46	13 10.2	15	9	31 12	13 6.2
15	11	28 48	13 7.4	19	9 $\frac{1}{2}$	31 12	17 26.6
13	9	28 51	14 3.3	21	11	31 12	11 17.3
12	10	28 54	13 11.3	12	10 $\frac{1}{2}$	31 20	13 22.2
20	10	29 0	17 35.5	13	11	31 22	14 8.9
21	11	29 4	11 30.3	16	10 $\frac{1}{2}$	31 30	17 9.4
21	11 $\frac{1}{2}$	29 14	11 27.2	13	10 $\frac{1}{2}$	31 35	14 4.0
15	9 $\frac{1}{2}$	29 16	13 8.8	16	12	31 46	17 9.7
12	11 $\frac{1}{2}$	29 23	13 11.7	15	10 $\frac{1}{2}$	31 50	12 58.7
12	11	29 23	14 4.8	15	11 $\frac{1}{2}$	31 56	12 58.2
12	11	29 25	14 7.0	16	9 $\frac{1}{2}$	31 57	17 0.7
20	10 $\frac{1}{2}$	29 26	17 38.3	16	11 $\frac{1}{2}$	31 59	17 7.2
19	9 $\frac{1}{2}$	29 32	17 14.3	21	10 $\frac{1}{2}$	32 0	11 16.0
20	9 $\frac{1}{2}$	9 29 35	+17 37.7†	12	11	9 32 2	+13 15.1

* (4).

† Small star p.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
19	11	9 32 9	+17 13.5	19	9 $\frac{1}{2}$	9 34 16	+17 16.0
16	10 $\frac{1}{2}$	32 13	16 57.0	21	10	34 17	11 25.5
21	10 $\frac{1}{2}$	32 16	11 24.6	15	11 $\frac{1}{2}$	34 27	13 9.8
13	11	32 25	13 52.8	16	10 $\frac{1}{2}$	34 27	17 2.5
19	10 $\frac{1}{2}$	32 25	17 23.0	16	11 $\frac{1}{2}$	34 31	17 7.8
16	9 $\frac{1}{2}$	32 27	16 58.1	12 15	9 $\frac{1}{2}$	34 46	13 9.2
13	11	32 29	13 55.1	12	10 $\frac{1}{2}$	34 52	13 21.5
15	12	32 29	13 4.1	13	10	34 59	13 58.9
15	11 $\frac{1}{2}$	32 32	13 4.0	12	9	35 15	13 17.1
20	10 $\frac{1}{2}$	32 35	17 47.7	13	10	35 24	14 2.4*
21	10 $\frac{1}{2}$	32 39	11 27.8	15	10 $\frac{1}{2}$	35 29	13 4.4
12	10 $\frac{1}{2}$	32 46	13 23.0	13	10	35 39	14 5.1
21	10 $\frac{1}{2}$	32 46	11 15.3	15	10 $\frac{1}{2}$	35 55	13 2.6
12	10 $\frac{1}{2}$	32 47	13 13.0	12	11 $\frac{1}{2}$	36 10	13 26.4
20	9 $\frac{1}{2}$	32 47	17 42.3*	21	10 $\frac{1}{2}$	36 15	11 32.5
16	11	32 52	17 4.9	13	10	36 24	13 58.6
19	11	32 59	17 27.9	12	12	36 25	13 24.4
21	11 $\frac{1}{2}$	33 1	11 18.6	16	11	36 27	17 7.6
15	11 $\frac{1}{2}$	33 7	13 5.3	16	10	36 27	17 12.2
15	12	33 7	13 8.0	12	9 $\frac{1}{2}$	36 32	13 8.7
13	9 $\frac{1}{2}$	33 8	13 53.6	16	10 $\frac{1}{2}$	36 46	17 10.0
12	9 $\frac{1}{2}$	33 9	13 11.9	13	10	36 47	13 58.2
16	10 $\frac{1}{2}$	33 11	17 7.3	15	11	36 56	13 8.7
13	10 $\frac{1}{2}$	33 22	14 0.4	12	10 $\frac{1}{2}$	37 4	13 14.9
16	10 $\frac{1}{2}$	33 25	17 11.1	12	11	37 11	13 21.7
15	10	33 46	13 4.9	21	11	37 13	11 23.3
12	11 $\frac{1}{2}$	33 48	13 12.6	15	11	37 19	13 7.2
19	10	33 59	17 23.2	15	9 $\frac{1}{2}$	37 27	13 9.8
16	9 $\frac{1}{2}$	34 0	16 58.3	21	10	37 30	11 16.2
15	11 $\frac{1}{2}$	34 2	13 13.1	12	11	37 42	13 21.6
12	11 $\frac{1}{2}$	34 3	13 14.0	21	11	37 43	11 23.0
15	10	34 6	12 59.0	16	10 $\frac{1}{2}$	37 45	16 55.5
19	11 $\frac{1}{2}$	34 10	17 23.8	16	10	37 52	17 5.1
19	12	34 13	17 12.1	13	8 $\frac{1}{2}$	37 54	14 8.3
16	12	9 34 14	+16 59.6	12	11 $\frac{1}{2}$	9 37 59	+13 21.5

* (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
15	10	9 38 3	+13 8.3	21	12	9 41 56	+11 25.0
16	11	38 4	17 1.6	13	12	42 0	14 4.4
15	10 $\frac{1}{2}$	38 14	12 58.9*	21	10 $\frac{1}{2}$	42 3	11 29.5
15	9	38 27	13 4.2	21	11	42 5	11 26.0
12	10	38 34	13 24.3	12	10 $\frac{1}{2}$	42 7	13 7.8
13	11	38 34	14 9.1	13	9	42 12	14 7.2
21	11	38 37	11 29.6	12	11	42 18	13 7.9
12	10	38 38	13 26.0	21	10	42 46	11 25.5
21	11	39 13	11 27.5	13	10 $\frac{1}{2}$	42 51	13 52.6
16	11	39 14	16 53.4	21	11	42 55	11 26.4
21	11	39 20	11 27.1	16	10 $\frac{1}{2}$	42 56	16 54.5
21	11 $\frac{1}{2}$	39 22	11 30.5	15	10 $\frac{1}{2}$	42 58	12 53.9
15	11	39 24	12 49.5	21	12 $\frac{1}{2}$	43 11	11 27.4
21	11 $\frac{1}{2}$	39 24	11 22.2	13	10 $\frac{1}{2}$	43 22	13 59.0
16	10 $\frac{1}{2}$	39 29	16 56.5	15	11 $\frac{1}{2}$	43 24	13 6.5
12	11	39 32	13 11.8	12	11	43 31	13 17.6
13	10	39 32	13 57.3	15	11 $\frac{1}{2}$	43 32	13 7.2
21	10 $\frac{1}{2}$	39 36	11 27.6	15	11 $\frac{1}{2}$	43 33	13 10.6
12	9	39 44	13 21.7	12	10	43 49	13 12.1
13	9 $\frac{1}{2}$	39 44	14 0.1†	13	9	43 55	13 59.1
16	9 $\frac{1}{2}$	39 59	17 10.0	12	10 $\frac{1}{2}$	44 5	13 15.3
12	9	40 4	13 16.8	12	10	44 6	13 21.9
16	10	40 8	17 12.0	21	11 $\frac{1}{2}$	44 17	11 30.3
15	9 $\frac{1}{2}$	40 28	13 10.2	15	9 $\frac{1}{2}$	44 32	13 4.3
16	12	40 34	17 11.7:	16	10	44 38	17 1.5
21	9	40 48	11 15.2	16	11 $\frac{1}{2}$	44 39	16 55.2
16	11 $\frac{1}{2}$	40 51	17 9.1	21	10 $\frac{1}{2}$	44 39	11 24.4
12	10	40 57	13 19.6	21	10 $\frac{1}{2}$	44 43	11 32.5
21	11 $\frac{1}{2}$	41 15	11 19.8	15	11 $\frac{1}{2}$	45 9	12 56.6
15	10 $\frac{1}{2}$	41 16	13 9.0	15	10 $\frac{1}{2}$	45 20	13 0.5†
12	10 $\frac{1}{2}$	41 17	13 26.5	16	10 $\frac{1}{2}$	45 35	17 3.4
13	11 $\frac{1}{2}$	41 30	14 3.5	21	11 $\frac{1}{2}$	45 35	11 25.5
12	10 $\frac{1}{2}$	41 32	13 28.4	21	10	45 48	11 27.0
16	11 $\frac{1}{2}$	41 32	16 55.0	16	11	45 54	16 58.1
15	10	9 41 41	+13 9.7	12	11 $\frac{1}{2}$	9 45 55	+13 21.1†

* Small companion.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
12	11½	^{h. m. s.} 9 58 27	[°] +13 12.7	19	11½	^{h. m. s.} 10 0 38	[°] + 8 41.5
13	10½	58 43	14 3.6	15	11	0 42	13 7.1
12	11½	58 46	13 19.5*	21	11	0 43	11 22.7
13	11½	58 53	14 2.9	13	10	0 44	13 54.0
12	10½	58 56	13 28.4	12	11½	0 53	13 25.5
12	11	58 57	13 24.8	13	10	0 58	14 8.8
21	10	59 0	11 30.8	12	9	1 0	13 28.8
20	10½	59 4	7 41.5	12	11	1 4	13 21.1
20	11½	59 7	7 38.6	15	11	1 4	12 55.9
16	11½	59 19	17 3.7	15	10	1 4	12 53.8
21	10	59 23	11 25.0	15	10	1 8	12 54.9
13	9	59 25	13 59.9*	15	11	1 9	12 56.2
19	11	59 31	8 48.3	16	11	1 16	16 54.3
21	10	59 35	11 27.0	13	9	1 20	14 10.0
20	11½	59 36	7 35.8	15	9½	1 21	12 58.9
19	11	59 39	8 47.5	16	10½	1 35	17 3.5
16	11	59 42	16 58.7	12	9½	1 38	13 13.1
13	11	59 45	14 0.4*	20	10	1 38	7 46.5
16	11½	59 54	8 22.8	16	11	1 43	8 22.2
15	11	59 56	13 7.1	20	11	1 46	7 37.4
19	11	59 56	8 50.8	16	9	1 47	8 19.8
16	11	59 57	17 10.7	16	9½	1 51	17 7.3
12 15	11	59 58	13 10.9	20	11½	1 51	7 47.7
20	11	9 59 58	7 37.7	16	11	1 53	8 25.5
16	11½	10 0 1	8 22.8	16	9½	1 55	17 7.3
19	11	0 2	8 47.6	15	10	2 2	12 59.2
21	10	0 8	11 19.8	19	11	2 2	8 46.2
15	11½	0 9	13 8.1	19	12	2 5	8 47.6
16	11	0 10	17 8.1	15	9	2 9	13 0.8
21	11½	0 10	11 18.1	20	10	2 18	7 46.8
16	9	0 11	8 16.1	21	9½	2 24	11 26.6
19	9	0 22	8 46.1	19	11½	2 33	8 47.1
16	8½	0 27	8 18.2	12	9½	2 35	13 13.8
12	11	0 32	13 13.9	12	10	2 39	13 13.0
12	11½	10 0 35	+13 25.6	12	10	10 2 43	+13 29.2

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.						h. m. s.			
21	11	10 2 54			+11 22.2*	16	11½	10 5 46			+ 8 24.5
13	11½	2 55			14 7.8	12 15	10½	5 51			13 8.0
19	12	2 55			8 44.1	16	12	5 51			8 24.5
20	10½	2 59			7 41.7	20	10½	5 57			7 44.1
15	10	3 0			12 59.6	21	11½	5 58			11 16.8
21	11½	3 9			11 22.8	13	9	6 12			14 6.3
21	10	3 12			11 13.2	13	12	6 14			14 8.6
15	11	3 15			12 53.8	21	9	6 14			11 15.1
12	11½	3 32			13 27.5	19	12	6 15			8 49.9
12	10	3 48			13 15.0	21	11	6 18			11 25.1
16	11½	3 48			8 18.1	15	11½	6 19			12 55.1
12	9½	3 58			13 12.5	19	12	6 19			8 47.8
13	9	4 4			14 2.6	19	11	6 23			8 45.0
16	11½	4 4			8 16.1	15	10	6 24			13 0.0
16	10½	4 8			8 22.7	19	11	6 25			8 43.4
21	9½	4 14			11 17.6	12	10	6 30			13 9.2
19	10	4 20			8 41.8	21	11½	6 33			11 27.8
19	10	4 25			8 33.1	20	10	6 37			7 50.0
20	10½	4 30			7 42.7	20	11½	6 41			7 37.0
19	11½	4 36			8 33.8	12	10½	6 42			13 12.1
12	11½	4 38			13 10.9	13	10½	6 45			14 9.0
19	11½	4 43			8 42.0*	20	11½	6 46			7 47.8
15	10½	4 44			12 58.2	19	10½	6 56			8 42.2
21	11	4 45			11 16.3	15	10½	6 58			12 55.4
20	10½	4 46			7 47.7	19	11	7 1			8 50.0
15	11	4 55			13 7.3	13	9½	7 7			13 55.5
12	11½	4 57			13 17.5	16	10	7 10			8 22.7
21	11½	5 0			11 20.5	20	10	7 25			7 39.6
21	11½	5 2			11 15.9	19	10½	7 35			8 44.2
21	11½	5 8			11 13.7	12	10	7 45			13 25.2
15	11	5 11			13 3.4	21	12	7 45			11 30.1
19	10	5 18			8 39.3	15	9	7 47			12 58.1
20	10	5 19			7 37.5	12	11½	7 50			13 12.1
13	9½	5 28			13 49.8	13	11	7 53			14 7.9
12	10½	10 5 30			+13 23.6	12	11	10 7 56			+13 15.7

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
15	9 $\frac{1}{2}$	^{h. m. s.} 10 8 10	[°] +13 6.2	16	10	^{h. m. s.} 10 10 55	[°] + 8 27.4
12	11	8 15	13 13.1	15	11 $\frac{1}{2}$	10 56	12 53.7
15	11	8 18	13 8.3	16	11 $\frac{1}{2}$	10 57	8 23.0
19	11 $\frac{1}{2}$	8 20	8 49.0	13	11	11 3	14 2.3
20	10	8 22	7 44.9	15	11	11 6	12 57.1
21	11	8 28	11 18.8	13	11 $\frac{1}{2}$	11 7	13 57.9
19	12	8 41	8 51.1	16	10	11 8	8 13.8
16	10	8 42	8 17.6	20	10 $\frac{1}{2}$	11 14	7 38.7*
21	10 $\frac{1}{2}$	8 48	11 20.5*	13	11	11 18	14 7.7
21	12	8 48	11 17.1	13	10 $\frac{1}{2}$	11 18	14 3.3
13	11	8 53	13 59.2	20	11	11 22	7 47.2
12	10 $\frac{1}{2}$	8 54	13 14.1	19	9	11 25	8 32.8
16	12	8 57	8 16.2	21	11	11 30	11 21.1
12	11 $\frac{1}{2}$	9 10	13 14.7	15	10	11 34	13 4.0
15	9 $\frac{1}{2}$	9 19	12 56.1	12	10	11 36	13 15.4
19	10	9 19	8 49.8	20	10	11 36	7 42.1*
12	10	9 20	13 27.5	12	11 $\frac{1}{2}$	11 40	13 13.7
21	9	9 22	11 22.6*	21	10 $\frac{1}{2}$	11 41	11 30.2
15	8 $\frac{1}{2}$	9 26	13 2.4*	21	10 $\frac{1}{2}$	11 43	11 30.6
16	11 $\frac{1}{2}$	9 26	8 12.9	19	12	11 47	8 41.0
20	12	9 26	7 43.3	12	10	11 59	13 24.2
15	12	9 30	12 56.1	12	10	12 0	13 15.5
21	10	9 35	11 19.5	15	10	12 6	13 5.6
20	12	9 41	7 43.7	21	11	12 7	11 29.5†
16	10	9 44	8 20.3	19	11	12 37	8 43.4
20	12	9 49	7 46.8	13	12	12 46	14 7.5
19	11	9 51	8 48.5	20	10 $\frac{1}{2}$	12 47	7 46.1
19	11	9 55	8 45.1	21	11	12 48	11 16.7
21	10	9 56	11 17.6	16	11 $\frac{1}{2}$	12 54	8 25.2
15	10 $\frac{1}{2}$	10 1	12 56.7	12	10	12 55	13 14.9
13	11	10 3	13 52.2	21	11	12 56	11 15.5
12	11	10 11	13 20.5	20	10 $\frac{1}{2}$	12 58	7 50.3
12	9 $\frac{1}{2}$	10 14	13 28.4	13	11	13 7	13 53.8
13	11	10 20	13 53.9	15	11	13 8	12 55.7
20	10 $\frac{1}{2}$	10 10 54	+ 7 38.2	19	11	10 13 20	+ 8 44.0*

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
12	10	^{h. m. s.} 10 13 41	[°] +13 21.3*	20	10	^{h. m. s.} 10 16 31	[°] + 7 41.5
12	10½	13 45	13 12.7	13	10	16 38	14 2.4
20	11	13 50	7 51.9	15	12	16 46	13 13.0
21	11	13 58	11 15.9	15	12	16 51	13 13.5
15	10	14 3	12 57.3	13	9	16 54	14 0.7*
21	11	14 9	11 15.3	12	11	16 57	13 18.7
15	11	14 13	13 7.0	13	10	17 4	13 58.6:
13	11	14 19	14 10.9	19	11½	17 9	8 36.0
16	11½	14 21	8 29.0	19	10½	17 13	8 35.7
20	11	14 22	7 49.9	12	10½	17 16	13 31.8
15	10	14 25	12 54.0	21	12	17 23	11 32.6
13	11½	14 29	14 5.6	16	11½	17 24	8 16.1
21	10½	14 49	11 14.5	19	11½	17 34	8 38.6
20	10	14 51	7 44.2	16	11	17 36	8 14.1
21	10	14 54	11 13.3	21	10½	17 38	11 32.7
19	11½	15 1	8 49.0	16	10	17 47	8 13.9
13	11	15 4	14 5.1	15	9½	17 57	13 0.0
15	10½	15 5	12 59.6	20	9	18 5	7 37.1
19	11½	15 10	8 46.0	15	10½	18 17	13 7.7
20	10½	15 15	7 42.7	15	11½	18 19	13 3.2
12	11	15 19	13 21.6	16	11	18 24	8 17.2
16	11½	15 23	8 27.0	15	11½	18 29	13 6.2
20	10	15 28	7 33.8	12 15	9	18 30	13 10.9
20	9½	15 34	7 42.8	13	10½	18 31	13 54.8
20	9½	15 37	7 33.2	21	11	18 46	11 27.5
12	10	15 44	13 19.1†	20	11	19 0	7 31.5
21	10½	15 55	11 19.0	13	9½	19 5	13 55.9
15	10	16 12	12 54.7	19	10	19 8	8 41.0
13	12	16 13	14 9.3	16	9	19 9	8 25.0
21	11	16 18	11 15.1	13	10	19 15	13 52.3
16	12	16 20	8 14.8	16	10	19 26	8 15.1
16	11½	16 21	8 23.6	16	11½	19 29	8 13.5
16	11	16 23	8 23.2	21	10	19 36	11 14.7
13	9	16 26	14 2.0	12	10½	19 42	13 17.0
16	12	10 16 28	+ 8 14.3	21	10	10 20 1	+11 30.2

* (4).

† Small companion.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
12	11½	10 20 4	+13 26.3	12	9½	10 23 37	+13 23.5
20	10½	20 19	7 48.9	20	12	23 42	7 37.1
15	10	20 20	13 8.5	12	10½	23 47	13 25.9
20	10½	20 23	7 47.9	16	11	23 49	8 27.6
21	12	20 34	11 32.0	21	12	23 53	11 16.8
12	9½	20 45	13 22.6	12	11	24 1	13 25.4
15	11½	20 56	12 59.0	15	11	24 7	12 59.2
12	9	20 59	13 26.4	21	10	24 9	11 15.7
16	9½	21 1	8 19.6	13	11	24 12	13 52.2
19	10	21 5	8 33.8	15	11½	24 12	13 10.1
13	9½	21 14	13 55.0*	15	11½	24 14	13 8.8
12	9½	21 17	13 21.8	16	10½	24 14	8 14.8
20	12	21 19	7 33.1	21	11½	24 16	11 19.6
20	11½	21 23	7 35.5	16	10	24 24	8 16.0
16	10½	21 26	8 28.3	20	9	24 28	7 48.3
21	10½	21 26	11 15.7	13	11	24 37	13 57.6
15	11½	21 52	13 3.2	21	11½	24 38	11 17.7
12	11	21 53	13 13.8	20	11	24 47	7 49.7
21	11	21 54	11 20.2	13	11½	24 55	14 10.9
21	10½	21 57	11 20.0	13	11½	25 2	14 6.3
15	11	22 8	12 57.4	21	11½	25 9	11 24.5
12	10	22 9	13 17.9	16	12	25 12	8 32.7
20	11	22 10	7 50.1	12	10½	25 19	13 11.5
15	9	22 22	12 58.7	20	11	25 19	7 51.8
16	11½	22 22	8 29.1	16	10	25 22	8 32.6
13	10	22 37	13 59.1	15	10½	25 24	12 55.6
12	10	22 41	13 28.6	20	11	25 46	7 47.5
21	11	22 43	11 16.8	15	11	25 48	12 54.4
16	10	22 59	8 30.3	21	11	25 49	11 15.9
13	10½	23 4	13 57.9	15	11½	25 54	12 57.1
20	10	23 10	7 36.3	21	10½	26 0	11 16.7
15	11	23 12	13 8.1	16	9½	26 5	8 17.0
12	11½	23 19	13 27.7	21	10½	26 8	11 27.7†
13	12	23 27	13 57.4	20	10	26 14	7 37.0
21	11½	10 23 30	+11 15.6	13	11	10 26 18	+13 59.2

* Double.

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
20	11	^{h. m. s.} 10 26 29	[°] + 7 36.2	21	11	^{h. m. s.} 10 29 43	[°] + 11 18.4
21	10	27 3	11 18.8	16	11½	29 45	8 22.6 *
15	11½	27 5	12 57.0	20	11½	29 47	7 44.0
13	11½	27 14	13 58.6	20	10	29 50	7 36.8
21	11½	27 17	11 16.5	16	11	29 52	8 25.2
16	10½	27 21	8 19.5 *	15	11	30 0	13 1.5
12	9	27 24	13 23.5	21	9½	30 0	11 25.7
16	11½	27 24	8 16.8	13	10½	30 5	14 3.3 *
21	11½	27 24	11 15.4	20	10½	30 6	7 37.2
16	11½	27 29	8 18.8	15	11	30 10	13 2.8
15	9½	27 33	13 5.5	21	11½	30 20	11 20.9
13	11	27 35	13 54.2	15	11½	30 21	13 12.9
13	10½	27 41	14 2.4	13	10	30 23	14 2.7
21	12	27 41	11 26.7	20	10	30 23	7 39.0
12	9½	27 43	13 26.4	12	9½	30 30	13 12.1
16	11	27 52	8 18.2	13	11	30 32	13 54.3
21	10	27 53	11 22.6	13	11	30 44	14 2.3 *
13	11½	27 58	14 0.1	21	11	30 44	11 23.6
15	9½	28 9	13 0.8 *	13	10½	30 58	13 59.8
13	9½	28 23	14 5.3	16	12	31 2	8 26.6
15	10	28 27	12 58.8	12	10	31 13	13 18.0
21	9½	28 37	11 17.5	15	10	31 15	13 2.9
12	11	28 41	13 23.2	15	9	31 30	13 5.5
20	10	28 41	7 34.1	12	10	31 38	13 25.0
12	11	28 53	13 21.4	16	11	31 41	8 20.2
16	10½	29 3	8 18.3	21	11½	32 8	11 26.2
16	10½	29 14	8 24.0	21	11	32 22	11 22.6
12	10½	29 18	13 27.2	21	11	32 25	11 22.6
20	11	29 21	7 44.0	20	12	32 37	7 49.2
21	11	29 26	11 12.1	12	11	32 39	13 19.9
15	11	29 32	13 7.3	16	11	32 41	8 18.5
13	12	29 36	14 9.0	12	10½	32 52	13 16.9
12	11½	29 37	13 25.4	16	11½	32 53	8 16.7
15	8½	29 37	13 7.8	12	11	32 56	13 14.5
16	10	10 29 42	+ 8 24.8	21	11½	10 32 56	+ 11 23.5

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
20	12	10 33 6	+ 7 41.9	16	11	10 41 11	+ 8 26.8
20	11½	33 31	7 45.9	21	11	41 32	11 16.5
21	9½	33 40	11 23.3	16	11	41 44	8 15.8
20	11½	33 45	7 37.5	20	11½	41 51	7 36.4
16	11	34 13	8 22.4	16	11	41 57	8 15.3
16	8	34 15	8 17.7	16	9	42 26	8 20.0
16	10½	34 35	8 13.5*	21	10½	42 36	11 15.6
20	10½	34 40	7 39.7	21	11½	42 44	11 18.1
20	10½	34 42	7 42.3	21	11	42 49	11 16.9
21	11½	34 58	11 24.2	20	9	42 51	7 46.6
21	10	35 4	11 25.8	20	9½	42 56	7 45.8
16	10	35 14	8 12.9	16	11½	42 57	8 15.3
21	11½	35 30	11 26.1	16	10	43 19	8 16.1
16	11½	36 22	8 27.5	20	10	43 26	7 40.0†
20	11½	36 54	7 46.8	21	10	43 42	11 17.4
16	11½	37 15	8 22.3	16	11½	43 59	8 28.9
21	10	37 18	11 18.3	21	11	43 59	11 19.8
16	10	37 19	8 14.6	16	11½	44 7	8 28.8
20	10½	37 27	7 39.5	21	11½	44 7	11 17.5 :
21	10½	37 35	11 16.3	21	12	44 18	11 16.9
21	10½	37 44	11 18.9	21	10	44 37	11 17.3
16	10½	37 45	8 26.3	16	9	44 42	8 17.0
20	10½	37 45	7 33.3	20	11½	44 50	7 51.1
21	9½	37 52	11 25.9:	20	11	45 13	7 32.3
20	9	37 55	7 34.6	20	11½	45 15	7 44.4
21	11	38 36	11 13.6	16	10½	45 19	8 28.8
16	10½	39 7	8 27.2	21	11	45 30	11 25.6†
20	10	39 13	7 42.8	20	11½	45 35	7 48.0
16	10	39 34	8 28.1	21	11	45 39	11 26.1
16	10½	39 40	8 14.1	16	12	45 51	8 13.8
20	9½	40 13	7 32.9	21	11	46 2	11 29.9
16	11	40 18	8 15.7	20	12	46 9	7 48.7
20	9½	40 24	7 38.7	16	11	46 14	8 25.4
20	9	40 24	7 34.9	21	11	46 15	11 29.2
21	10½	10 40 27	+11 30.8	21	10½	10 46 41	+11 22.4

* L. of Double.

† (4-)

‡ A 12th S.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
20	9	^{h. m. s.} 10 46 42	[°] + 7 38.3	21	10	^{h. m. s.} 10 52 46	[°] + 11 17.8
16	11	46 56	8 18.1	20	11	52 47	7 36.9
16	11½	47 5	8 15.0	16	8	53 7	8 25.4
20	10½	47 18	7 41.6*	21	10	53 7	11 24.8
16	12	47 20	8 14.4	21	11	53 14	11 26.2
21	10½	47 30	11 27.3	21	12	53 22	11 24.0†
16	10½	47 51	8 12.9	20	11	53 54	7 35.8
16	10	47 54	8 22.5	20	11	53 58	7 45.8
16	12	48 0	8 13.6	16	11½	54 2	8 13.9
21	10½	48 0	11 18.9	20	11	54 5	7 50.2†
21	11	48 11	11 20.2	16	12	54 10	8 14.0
21	12	48 41	11 27.3	20	11½	54 18	7 44.0
16	10½	48 50	8 11.0	20	10	54 40	11 13.2
20	9½	49 6	7 38.3	21	11	54 59	11 23.3
20	9½	49 19	7 50.4	16	12	55 12	8 23.0
21	10	49 25	11 13.0	20	12	55 24	7 34.5
16	12	49 36	8 16.7	16	11	55 36	8 23.2
21	9	49 54	11 27.4	21	11	55 43	11 16.9
21	11	49 56	11 32.1	21	12	55 48	11 17.0
21	11½	50 4	11 23.2	20	8½	55 53	7 49.4
20	11½	50 9	7 45.9	20	11½	56 12	7 31.6
20	11	50 9	7 31.9	20	9½	56 38	7 29.4
16	10	50 13	8 30.6	21	10½	56 42	11 32.6
20	11½	50 14	7 37.5	21	10½	57 4	11 21.7
21	11½	50 23	11 29.6	21	11	57 23	11 33.1
16	11	50 38	8 28.9	21	10	57 30	11 21.7
21	10½	51 6	11 12.9	16	11	57 39	8 18.5
16	9½	51 19	8 13.2	20	11½	57 42	7 46.3
16	10½	51 23	8 14.1	16	11½	57 47	8 19.6*
20	11	51 31	7 29.7	20	11	57 51	7 33.5
21	11	51 59	11 24.8	16	11½	57 57	8 16.6
21	11½	52 11	11 27.7	20	10	58 6	7 36.1
20	10	52 34	7 35.8	21	10½	58 52	11 29.5
20	11	52 35	7 31.8	20	11½	58 53	7 34.2
21	11½	10 52 43	+ 11 23.8	16	11	10 58 57	+ 8 30.2

* (4).

† Qu. 52 m.

‡ A 10th N.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] ['] ["]			^{h.} ^{m.} ^{s.}	[°] ['] ["]
21	9½	10 59 14	+ 11 22.7*	16	11½	11 8 44	+ 8 27.7
21	11	59 30	11 19.7	16	11½	8 49	8 25.4
21	9½	59 41	11 30.9 :	20	11½	9 3	7 48.7 :
16	11	59 42	8 26.2	20	11½	9 37	7 36.6
20	10½	10 59 49	7 49.9	20	12	9 38	7 34.7
16	11	11 0 0	8 24.3	20	10	9 51	7 34.4
20	10½	0 1	7 42.7	16	12½	10 0	8 26.6
20	12	0 11	7 47.0	20	11	10 3	7 47.0
21	12	0 30	11 14.3	16	12	10 6	8 15.9
20	11½	0 51	7 43.5	16	11	11 16	8 27.9
16	11	1 11	8 30.2	16	10	11 21	8 13.8
20	9	1 13	7 42.9	16	12	11 36	8 18.4
20	11	1 13	7 44.7	16	10½	11 52	8 22.7
16	11	2 0	8 22.5	20	11½	11 54	7 49.3
16	12½	2 5	8 17.9	20	12	11 57	7 45.9
20	10½	2 12	7 38.8	16	9	12 11	8 24.1
20	11½	2 46	7 37.3	20	11½	12 14	7 46.6
20	11	2 59	7 45.7	16	11½	12 28	8 23.8
16	11½	3 12	8 15.1	20	12	12 28	7 45.3
20	10½	3 26	7 47.1	16	11	12 35	8 27.6
20	11	3 43	7 32.1	20	9½	12 54	7 34.8
16	11	4 5	8 23.2	20	10½	13 8	7 47.9
20	10½	4 11	7 31.9	16	11	13 43	8 14.2
16	11	5 1	8 22.8*	20	11	13 51	7 41.8
16	11	5 8	8 22.5	20	10½	14 2	7 35.2
20	10½	6 5	7 43.7	16	10	14 9	8 23.0
20	9½	6 56	7 42.1*	20	11½	14 18	7 42.5
20	11	6 57	7 47.8	16	12	14 22	8 13.3 †
16	11½	7 1	8 20.0	20	12	14 23	7 35.6
16	10½	7 5	8 23.8	20	11	14 35	7 42.6
20	11	7 14	7 37.7	20	11½	14 45	7 41.5
16	10½	7 23	8 18.8	20	11	15 15	7 45.8
16	11½	7 53	8 17.6	16	10	15 38	8 29.1
20	10½	8 30	7 37.9	20	10	15 43	7 51.2
16	10	11 8 43	+ 8 25.0 †	16	10½	11 15 44	+ 8 24.4

* (4).

† L. of double.

‡ A 12th S. p.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
16	11	^{h. m. s.} 11 16 39	+ 8 16.7	20	11	^{h. m. s.} 11 26 38	+ 7 44.0
16	11½	16 59	8 19.5	20	10½	27 5	7 48.7
20	11	17 1	7 45.3	16	10	27 27	8 22.8†
16	10	17 17	8 26.0	16	11½	27 29	8 26.2
16	10½	17 18	8 19.1	16	11	27 30	8 19.9†
20	11	17 32	7 41.8	16	9½	27 33	8 27.4
16	11½	19 1	8 22.5	20	12	27 49	7 48.9
16	11½	19 5	8 28.2	20	9	28 2	7 43.5
20	11	19 11	7 39.6	16	10½	28 57	8 23.4
16	11½	19 12	8 30.9	16	10½	29 16	8 20.8†
16	11	19 14	8 25.9	16	8	29 32	8 19.9
20	11	19 17	7 48.9	20	10½	29 42	7 34.4
20	11½	19 26	7 44.4	20	10	29 55	7 42.5
20	11	20 31	7 36.2	16	10	29 58	8 25.1
16	9½	20 39	8 22.2	20	11	30 27	7 34.2
16	9½	20 45	8 23.7	20	12	30 47	7 36.9
20	9½	20 47	7 36.4	20	10½	30 54	7 37.0
16	10	21 48	8 29.4	16	10½	31 8	8 20.1
20	11	21 54	7 35.2	20	9½	31 13	7 32.5
16	11	21 57	8 29.1	16	11	31 49	8 23.0
20	11½	22 3	7 36.8	16	10	31 55	8 19.7
20	9½	22 22	7 49.3	16	11	32 24	8 15.9
16	11	22 24	8 16.1	20	10½	32 33	7 46.7
20	10	23 24	7 42.6	20	12	32 35	7 45.6
20	11	23 52	7 44.5	16	11	32 39	8 16.0
16	9	23 53	8 24.7*	20	9½	32 56	7 47.5
20	11½	24 28	7 35.3	16	11	33 18	8 17.1
20	11	24 36	7 34.6	20	11	33 29	7 36.0
16	11	24 38	8 16.4†	20	12	33 56	7 44.5
20	11½	24 49	7 39.3	20	10	34 8	7 50.4
16	11	24 51	8 17.2	16	10	34 11	8 18.9
16	11	25 31	8 13.8	16	10	34 32	8 25.6
16	10	26 21	8 23.0	16	10½	34 40	8 22.3†
20	11½	11 26 25	+ 7 35.7	16	11	11 34 43	+ 8 24.3

* L. of double.

† Close double.

‡ (4).

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

547 STARS NEAR THE ECLIPTIC,

OBSERVED IN MARCH, 1855, AT MARKREE.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.			° ' "			h. m. s.			° ' "
15	11½	8 56 4			+19 47.4	7	10	9 5 14			+12 33.7
7	10	56 14			12 39.5	15	11½	5 28			19 35.0
7	11	56 51			12 42.7	15	10	5 51			19 33.1
7	11½	57 2			12 46.2	7	11	5 55			12 38.1
7	10	57 39			12 43.1	15	10	5 56			19 45.0
7	9	57 55			12 32.3	7	11½	6 36			12 47.7
7	11½	58 47			12 34.7	7	11	6 38			12 48.3
7	9½	58 47			12 48.4	15	11	6 39			19 50.2
7	11½	59 2			12 36.2	15	12	6 43			19 45.4
7	11½	8 59 47			12 37.9	15	11	6 59			19 46.0
15	11½	9 0 34			19 45.8	7	10	7 5			12 34.1
15	11½	0 57			19 44.4	15	11	7 21			19 48.0
7	9½	1 6			12 44.8*	15	11	7 23			19 46.8
7	10	1 14			12 46.6	7	11	7 44			12 49.9
7	11½	1 22			12 46.7	15	10	7 45			19 35.2
15	10½	1 34			19 46.5	7	10½	8 37			12 47.3
7	11	1 53			12 33.9	7	9½	8 57			12 43.8
7	11½	2 3			12 42.0	7	10½	9 1			12 50.1
7	10½	2 19			12 44.0	7	10½	9 4			12 46.1
7	10	2 44			12 42.8	15	11	9 4			19 49.6
7	9½	2 44			12 41.4	7	10	9 56			12 47.7
15	10½	3 0			19 36.1	7	10½	9 57			12 47.4
15	10½	3 22			19 37.5	7	11	10 6			12 48.3
7	11	3 46			12 44.3	15	10	10 34			19 44.3
15	11½	3 57			19 44.2	15	10	10 41			19 48.6
15	10	4 3			19 47.3	7	10	11 4			12 39.7
7	10½	4 9			12 49.0	7	10	11 7			12 39.3†
7	10½	4 16			12 35.5	7	11½	11 9			12 33.1
7	9½	4 34			12 42.6	7	10	11 56			12 42.5
7	10½	9 5 13			+12 37.7	15	11	9 12 55			+19 44.4

* Small companion.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
15	11	9 13 0	+19 37.4	15	11	9 21 17	+19 50.1
7	11½	13 22	12 31.3	15	9	21 25	19 45.1
15	11	13 38	19 47.9	7	10	21 48	12 34.8
7	11	13 41	12 48.7	15	11½	22 55	19 34.3
15	10	14 10	19 44.2	15	12	23 31	19 37.5
7	11	14 12	12 53.1	7	11	23 32	12 32.3
7	11	14 21	12 49.0	7	11½	23 53	12 46.5
15	10½	14 33	19 35.5	15	11½	23 54	19 36.3
15	10½	14 44	19 36.3	15	11½	24 6	19 33.8
15	10	14 46	19 35.4	15	11	24 19	19 34.8
15	10½	14 51	19 38.0	7	10	24 21	12 38.5
7	12	14 56	12 46.4	7	11	25 2	12 42.3†
15	10	15 33	19 36.7	15	10	25 2	19 46.1
7	11½	15 42	12 45.2*	15	10½	25 7	19 34.3
15	11	15 59	19 50.5	24	11½	25 24	10 51.4
7	10½	16 2	12 48.0	15	10½	25 33	19 34.5
15	10	16 3	19 42.5	24	11	25 34	10 51.7
15	10	16 33	19 35.6	7	10½	25 50	12 44.1
7	10½	16 52	12 32.0	24	10½	25 53	10 47.0
7	10½	17 9	12 39.2†	15	10½	26 9	19 33.4
7	11½	17 11	12 33.9	24	10	26 22	10 49.0†
15	10½	17 22	19 46.2	7	10½	26 32	12 37.8
7	10½	17 31	12 36.3	7	10½	26 49	12 38.3
15	10½	18 25	19 36.1	24	11	26 54	10 44.2
15	11	18 45	19 47.4	15	11½	27 20	19 43.0§
7	10½	18 47	12 33.0	24	10	27 28	10 32.9
7	10	18 51	12 45.8	24	11	27 29	10 40.3
15	11	19 30	19 32.5	15	11½	27 38	19 36.9
7	10½	19 43	12 27.8	24	9½	27 46	10 32.2
15	10½	19 44	19 33.6	15	11	27 55	19 37.8
7	10½	19 51	12 31.8	24	10	28 0	10 40.3
15	11½	19 58	19 29.4	7	10	28 3	12 45.0
15	11	20 10	19 29.9	15	10½	28 4	19 44.4
7	11	20 44	12 43.2	7	11	28 15	12 45.6
7	11	9 21 1	+12 30.2	7	11	9 28 16	+12 49.4

* L. of double.

†(4).

‡ Small companion.

§ (4). Close double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
15	10 $\frac{1}{2}$	9 28 20	+19 40.6	24	11 $\frac{1}{2}$	9 36 19	+10 43.0
7	11 $\frac{1}{2}$	28 27	12 42.0	7	11	36 24	12 31.7
7	11 $\frac{1}{2}$	28 39	12 43.1	24	11 $\frac{1}{2}$	36 25	10 47.7
24	11 $\frac{1}{2}$	28 47	10 46.5	24	10 $\frac{1}{2}$	36 28	10 45.3
7	10 $\frac{1}{2}$	28 56	12 44.9	7	11	36 44	12 33.3
24	10 $\frac{1}{2}$	28 57	10 37.8	24	11 $\frac{1}{2}$	36 46	10 44.6
24	10 $\frac{1}{2}$	29 31	10 46.9	7	11	37 13	12 37.9
15	10 $\frac{1}{2}$	29 35	19 51.0	7	11 $\frac{1}{2}$	37 30	12 37.1
24	9 $\frac{1}{2}$	30 9	10 46.9	7	11	37 38	12 41.5
15	11	30 12	19 40.9*	7	11	37 59	12 47.6
7	9 $\frac{1}{2}$	30 34	12 43.2	24	9 $\frac{1}{2}$	38 4	10 45.2
24	11	30 38	10 34.8	24	11	38 15	10 42.8
7	9 $\frac{1}{2}$	30 44	12 43.6	24	11 $\frac{1}{2}$	38 24	10 45.6
15	11 $\frac{1}{2}$	30 52	19 39.2	24	10	38 31	10 33.9
24	10 $\frac{1}{2}$	31 10	10 36.7	24	10 $\frac{1}{2}$	39 19	10 30.2
15	11 $\frac{1}{2}$	31 15	19 38.4	24	11	39 25	10 30.1
7	11 $\frac{1}{2}$	31 47	12 48.8	7	11 $\frac{1}{2}$	39 31	12 48.3
15	11	31 49	19 46.0	7	10 $\frac{1}{2}$	39 52	12 49.6
24	10	31 51	10 40.1	7	10 $\frac{1}{2}$	40 7	12 46.8
7	12	31 57	12 42.3	24	10 $\frac{1}{2}$	40 22	10 30.7
7	12	32 11	12 45.5	24	11	41 6	10 43.5
7	11 $\frac{1}{2}$	32 12	12 52.7	7	11 $\frac{1}{2}$	41 7	12 46.6
7	11	32 31	12 41.4	24	11	41 20	10 41.0
15	11	32 38	19 43.2*	24	11	41 21	10 43.0
15	10	32 54	19 36.1	24	10 $\frac{1}{2}$	41 27	10 47.0
15	11 $\frac{1}{2}$	33 9	19 35.1	7	11	41 59	12 51.7
24	11	33 12	10 35.2	7	11	42 8	12 47.8
24	11	33 26	10 37.8	24	10 $\frac{1}{2}$	42 35	10 30.9
7	11	34 1	12 31.9	24	11	42 53	10 32.9
24	10 $\frac{1}{2}$	34 10	10 37.9	24	11 $\frac{1}{2}$	43 20	10 47.6†
7	11	34 42	12 52.6	24	11 $\frac{1}{2}$	43 37	10 46.9
24	10 $\frac{1}{2}$	35 12	10 48.1	7	11	43 38	12 45.8:
7	11 $\frac{1}{2}$	35 21	12 48.7	7	11 $\frac{1}{2}$	44 1	12 45.8
24	11 $\frac{1}{2}$	36 7	10 43.0	24	10	44 3	10 46.4
7	11	9 36 15	+12 45.0	7	11 $\frac{1}{2}$	9 44 11	+12 46.3

* (4).

† L. of Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
24	9 $\frac{1}{2}$	^{h. m. s.} 9 44 17	^{° ' "} +10 42.5	24	11	^{h. m. s.} 9 54 20	^{° ' "} +10 36.4
7	11 $\frac{1}{2}$	44 23	12 47.7	24	9 $\frac{1}{2}$	54 22	10 49.4
24	10 $\frac{1}{2}$	44 40	10 48.5	7	10 $\frac{1}{2}$	54 30	12 41.4
24	11	45 1	10 50.8	7	10	54 31	12 38.9
24	11	45 40	10 34.1	24	10	54 51	10 38.2
24	10 $\frac{1}{2}$	46 15	10 30.4	24	11	55 21	10 40.6†
24	10 $\frac{1}{2}$	46 25	10 33.0	7	11 $\frac{1}{2}$	55 37	12 31.9
7	11 $\frac{1}{2}$	46 26	12 46.5	23	10 $\frac{1}{2}$	56 5	6 56.9
24	9	46 56	10 37.1	23	11	56 23	7 7.8
7	12	47 10	12 42.6	23	11	56 26	7 7.9
24	12	48 20	10 35.3*	7	10 $\frac{1}{2}$	56 42	12 33.9
24	11	48 21	10 34.5	23	10 $\frac{1}{2}$	56 46	7 0.4
7	10	48 22	12 37.6	7	10 $\frac{1}{2}$	56 51	12 34.5
7	10 $\frac{1}{2}$	48 32	12 39.4†	23	11	56 53	6 59.8
7	11	49 7	12 42.3	24	10	56 56	10 34.3
7	10	49 14	12 36.7	7	12	57 4	12 33.2
7	12	49 22	12 39.3	24	10	57 5	10 42.8
24	9 $\frac{1}{2}$	49 43	10 41.9	24	12	57 16	10 47.2
7	11	49 47	12 42.0	23	11	57 42	7 8.5
24	9 $\frac{1}{2}$	50 8	10 44.8	24	10 $\frac{1}{2}$	57 52	10 37.3
24	9 $\frac{1}{2}$	50 29	10 45.7	24	12	57 58	10 46.2
7	10	51 4	12 41.7	23	11	58 29	6 55.4
24	10 $\frac{1}{2}$	51 11	10 47.4	23	11	58 29	6 54.4
24	11	51 25	10 45.8	23	9	59 2	7 8.9
24	11	51 28	10 49.0	23	10	59 17	7 12.1
24	10 $\frac{1}{2}$	51 34	10 40.3	7	11 $\frac{1}{2}$	59 19	12 32.1
7	12	51 36	12 43.9	24	11 $\frac{1}{2}$	59 27	10 35.3
7	10 $\frac{1}{2}$	51 44	12 33.1	24	11	59 28	10 33.8
7	11 $\frac{1}{2}$	51 49	12 43.5	23	9 $\frac{1}{2}$	9 59 46	7 5.2
7	10 $\frac{1}{2}$	51 57	12 36.6	24	11 $\frac{1}{2}$	10 0 42	10 43.0
24	10 $\frac{1}{2}$	52 15	10 44.5	24	11 $\frac{1}{2}$	1 10	10 37.7
24	11 $\frac{1}{2}$	52 15	10 38.9	24	10 $\frac{1}{2}$	1 28	10 40.7
24	10 $\frac{1}{2}$	53 25	10 47.8	7	11 $\frac{1}{2}$	1 34	12 42.8
7	11	53 42	12 29.6	23	12	1 37	6 53.4
7	11 $\frac{1}{2}$	9 53 56	+12 28.5	23	11	10 1 58	+ 7 12.4

* L. of double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	^{° ' "}			^{h. m. s.}	^{° ' "}
24	11	10 2 1	+10 37.4	24	11½	10 8 34	+10 36.0
24	10	2 29	10 35.9	15	11	9 11	14 28.6
24	11½	2 54	10 32.4	23	11½	9 14	7 10.5
24	10½	2 59	10 35.9	23	11	9 18	7 4.9
23	9½	3 3	7 9.0	24	11½	9 19	10 31.8†
24	10	3 3	10 38.2	23	8	9 54	7 9.9
24	10	3 18	10 45.0	23	10½	10 2	6 54.8
23	9½	3 24	7 3.7	7	11	10 15	12 43.4
24	10½	3 28	10 40.4	7	9½	10 17	12 34.8
7	11½	3 31	12 35.1	7	10½	10 22	12 36.6
7	11½	3 51	12 33.3*	23	12	10 44	6 57.9
23	11½	4 5	6 58.1	23	12	10 49	7 10.5
23	11	4 22	7 1.6	24	11½	10 51	10 35.3
24	11	4 25	10 43.2	15	10½	10 56	14 34.6
7	11	4 34	12 47.8	23	12	11 7	6 56.6
24	10	5 0	10 33.7	7	10½	11 48	12 37.3
7	12	5 5	12 38.6	7	10½	12 9	12 44.2
7	12	5 6	12 39.1	15	10½	12 21	14 42.5
23	10½	5 25	7 1.9	24	10	12 21	10 34.3
23	11½	5 33	6 56.2	23	11½	12 31	7 11.5
23	10½	6 9	7 4.5†	24	10½	12 35	10 40.7†
24	11½	6 30	10 44.6	15	11	12 45	14 43.0
15	11	6 34	14 47.8	23	11	12 54	7 9.2
7	10½	6 35	12 33.8	7	12½	13 1	12 48.4
23	11½	6 43	7 10.4	23	11½	13 8	6 55.5
24	12	6 47	10 33.2	7	9½	13 35	12 31.9
24	12	6 48	10 34.0	7	10½	13 44	12 44.1
15	11½	6 52	14 34.9	23	10	14 11	6 59.3
24	12	7 0	10 34.1	15	10½	14 18	14 38.2†
7	11½	7 14	12 48.1	15	11½	14 20	14 39.0
15	10½	7 24	14 49.1	23	9½	14 20	6 58.4
15	10½	7 51	14 32.6	7	10	14 25	12 31.8
7	11	8 5	12 43.6	15	10½	14 40	14 44.5
15	10	8 15	14 34.1	7	11½	14 48	12 33.9
24	10	10 8 28	+10 35.6	7	10½	10 14 55	+12 43.3

• Double.

† (4).

‡ L. of double.

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
		h. m. s.					h. m. s.		
24	9 $\frac{1}{2}$	10 15 10	+10	47.6	23	10	10 21 41	+7	6.1
7	12	15 17	12	46.8	23	11 $\frac{1}{2}$	21 44	7	10.0
23	10	15 50	7	9.4	24	11 $\frac{1}{2}$	21 55	10	44.6
23	9 $\frac{1}{2}$	16 3	7	2.4	15	11	22 22	14	41.9
23	11	16 9	6	58.1	24	11 $\frac{1}{2}$	22 40	10	42.2
23	10 $\frac{1}{2}$	16 24	7	5.1	15	11	22 44	14	30.8
23	11	16 32	7	4.4	24	12	22 54	10	41.5
15	10	16 49	14	51.1*	7	10	23 3	12	48.5
23	10 $\frac{1}{2}$	17 38	7	8.7	24	11	23 23	10	36.4
23	9 $\frac{1}{2}$	17 47	7	4.9	7	11	23 24	12	36.3
15	10 $\frac{1}{2}$	17 49	14	31.7	24	11	23 30	10	37.0
23	11	17 49	6	54.6	15	11 $\frac{1}{2}$	23 31	14	48.1
7	12	17 50	12	46.8	15	11 $\frac{1}{2}$	23 35	14	46.5
15	10	17 50	14	41.8	15	11 $\frac{1}{2}$	23 43	14	43.1
7	11	18 7	12	45.4	15	11 $\frac{1}{2}$	23 43	14	48.4
7	11	18 31	12	50.3	24	11	23 44	10	37.1
7	11 $\frac{1}{2}$	18 41	12	42.0	23	11	23 55	7	4.0
15	11 $\frac{1}{2}$	18 44	14	29.8	7	11	24 17	12	33.0
15	11	18 56	14	35.9	15	12	24 23	14	32.1
7	11 $\frac{1}{2}$	18 59	12	42.7	15	11 $\frac{1}{2}$	24 34	14	37.6
7	11	19 15	12	42.9	24	11	25 6	10	43.4
23	11	19 19	6	54.8	7	9 $\frac{1}{2}$	25 7	12	46.6
23	10 $\frac{1}{2}$	19 20	6	59.3	24	11 $\frac{1}{2}$	25 10	10	35.7
24	10 $\frac{1}{2}$	19 34	10	41.0	15	10 $\frac{1}{2}$	25 24	14	47.7
15	9	20 2	14	51.6	7	10	25 38	12	42.1†
15	11 $\frac{1}{2}$	20 17	14	48.9	15	11	25 49	14	45.2
7	10 $\frac{1}{2}$	20 26	12	33.6	15	11	25 56	14	35.7
24	11	20 34	10	35.8	15	11	26 4	14	41.4
7	10	20 36	12	32.8	15	11 $\frac{1}{2}$	26 7	14	35.7
24	11	20 38	10	42.1	24	11	26 15	10	36.0
15	10 $\frac{1}{2}$	21 3	14	42.7	24	10 $\frac{1}{2}$	26 16	10	47.7
15	11 $\frac{1}{2}$	21 13	14	45.1	24	11	26 21	10	37.3
24	11 $\frac{1}{2}$	21 20	10	35.9	7	9 $\frac{1}{2}$	26 26	12	37.9
7	10	21 21	12	48.7	24	10	26 36	10	44.3
15	11 $\frac{1}{2}$	10 21 30	+14	43.0	15	10 $\frac{1}{2}$	10 27 2	+14	33.6

* Close double.

† (4).

L

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.						h. m. s.			
23	10 $\frac{1}{2}$	10 27 7	+	7 7.2	23	10	10 32 24	+	6 58.9		
23	11	27 17		6 57.6	15	11 $\frac{1}{2}$	32 35		14 34.2		
23	11 $\frac{1}{2}$	27 21		6 56.8	24	11 $\frac{1}{2}$	32 39		10 36.1		
24	10 $\frac{1}{2}$	27 31		10 46.9	15	11	32 40		14 33.6		
7	11	27 44		12 34.8	24	11 $\frac{1}{2}$	32 44		10 37.8		
15	11	27 47		14 47.8	23	11 $\frac{1}{2}$	32 47		7 0.7		
7	11	27 49		12 43.6	23	11 $\frac{1}{2}$	32 50		6 58.8		
23	11	27 49		7 0.7	24	11	33 1		10 35.3		
7	11 $\frac{1}{2}$	27 56		12 37.1	23	11	33 9		6 59.2		
23	11 $\frac{1}{2}$	28 5		6 57.2	24	11	33 15		10 37.3		
15	11 $\frac{1}{2}$	28 27		14 45.9	24	10	33 19		10 41.1		
15	10 $\frac{1}{2}$	28 28		14 36.7	15	10 $\frac{1}{2}$	34 9		14 36.9		
7	10	28 31		12 34.2	23	11	34 30		7 11.2		
23	11 $\frac{1}{2}$	28 32		6 58.5	23	11 $\frac{1}{2}$	34 35		7 5.0		
7	9 $\frac{1}{2}$	29 14		12 47.4	23	11	34 37		7 7.7		
23	10 $\frac{1}{2}$	29 19		7 0.4	24	11 $\frac{1}{2}$	35 14		10 48.3		
7	11 $\frac{1}{2}$	29 22		12 49.4	24	10	35 21		10 43.4		
7	10 $\frac{1}{2}$	29 22		12 42.2	24	10	35 50		10 35.5		
23	11 $\frac{1}{2}$	29 22		7 2.2	24	11 $\frac{1}{2}$	36 3		10 34.5		
15	10	29 23		14 47.1	23	10 $\frac{1}{2}$	36 8		7 1.3		
23	11 $\frac{1}{2}$	29 29		6 54.6	24	10 $\frac{1}{2}$	36 16		10 31.0		
24	11 $\frac{1}{2}$	30 4		10 41.3	23	10	36 18		7 5.7		
24	10	30 15		10 38.1*	23	10 $\frac{1}{2}$	36 36		7 3.7*		
15	11	30 29		14 46.8	23	11 $\frac{1}{2}$	36 42		7 11.6		
7	11	30 48		12 35.7	23	9	36 48		7 7.2		
24	11 $\frac{1}{2}$	30 50		10 38.6	24	10 $\frac{1}{2}$	37 12		10 41.2		
15	11	30 52		14 36.4	24	10	37 20		10 46.2		
23	10 $\frac{1}{2}$	30 55		6 59.3	24	10	37 41		10 44.3†		
23	11	31 4		7 4.4	24	10 $\frac{1}{2}$	38 36		10 30.5		
23	11	31 6		7 5.6	24	11 $\frac{1}{2}$	39 1		10 31.4		
7	11	31 20		12 45.4	23	10 $\frac{1}{2}$	39 25		7 1.7*		
24	11	31 35		10 32.1	24	11 $\frac{1}{2}$	39 56		10 50.8		
15	11	31 53		14 52.7	24	11 $\frac{1}{2}$	40 1		10 45.9		
15	11	32 8		14 51.2	24	12	40 12		10 51.2		
7	11	10 32 16	+	12 48.2†	24	9 $\frac{1}{2}$	10 41 9	+	10 38.7		

* (4).

† Small companion.

‡ Small star, N.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
24	9	^{h. m. s.} 10 41 12	[°] +10 33.7	9	10	^{h. m. s.} 10 58 3	[°] + 3 10.3
24	9½	41 36	10 35.1	24	11	58 12	10 44.6
24	11½	42 35	10 45.8	24	12	58 28	10 33.0
24	11½	42 39	10 42.8	24	10½	59 9	10 46.8
24	11½	42 56	10 37.4	9	11½	59 10	3 4.7
24	11½	42 58	10 35.3	24	10½	59 11	10 32.4
24	11	44 19	10 36.6	9	11½	59 19	2 56.2
24	11	44 34	10 38.3	9	12	59 24	3 5.7
24	10	44 45	10 35.6	9	11	59 34	3 6.5
24	11	44 54	10 35.0	9	12	10 59 49	3 4.0
24	10	45 35	10 32.3	24	11	11 0 5	10 44.0
24	12	47 3	10 34.6	9	10½	0 17	2 53.9
24	9½	47 22	10 46.6	24	10½	1 10	10 30.5
24	11	47 36	10 37.5	9	11	1 20	3 0.6
24	11	48 12	10 33.1	9	11½	1 26	3 5.5
24	11	48 41	10 35.6	9	10	1 40	3 8.3
24	12	50 50	10 34.6	24	11½	2 5	10 50.1
24	11	50 56	10 33.3	24	11	2 48	10 37.0
24	10	51 38	10 46.8	24	11½	2 50	10 39.8
24	12	51 54	10 45.6	24	10	3 49	10 48.4
9	9½	52 25	3 1.9	9	10	4 9	2 54.0
24	10½	53 10	10 34.6	9	10½	4 12	3 3.3
24	11	53 13	10 51.1	24	10	4 15	10 41.7
9	10	54 5	2 57.3	9	9½	5 9	3 8.6
24	9½	54 20	10 42.5*	9	11½	5 12	3 1.7
24	10	54 23	10 33.3*	9	12	5 54	3 2.5
9	10½	54 44	2 54.3	9	11½	5 58	3 4.8
9	11½	55 22	2 54.4	9	12	6 2	3 10.5
9	10½	55 43	2 58.0	9	10	7 34	3 0.2
24	11½	55 48	10 42.1	9	10½	7 38	2 53.7
9	10½	56 40	2 55.7	9	11½	7 43	2 56.3
24	11	56 49	10 48.2	9	12	11 8 52	+ 3 6.2
24	10½	56 57	10 31.0				
9	11	57 18	3 5.0				
24	10½	10 57 21	+10 31.5				

* Double.

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,
OF
1,591 STARS NEAR THE ECLIPTIC,
OBSERVED IN APRIL, 1855, AT MARKREE.

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
		h. m. s.		° ' "			h. m. s.		° ' "
13	12	10 42 8		+ 7 2.6	13	11½	10 51 58		+ 6 56.7
13	11	42 38		7 2.7	13	11½	52 10		6 57.5
13	12	42 39		6 57.5	13	11	52 40		7 4.7
13	10½	43 59		7 6.8	13	10½	53 38		6 58.5
13	10½	44 10		6 55.2	13	10½	53 43		7 1.5†
13	10½	44 23		6 55.9	13	11	54 26		7 2.8
13	11	44 58		6 51.6	16	11½	54 27		10 14.1
13	11	45 1		6 59.0	13	11	54 55		7 1.5
13	11½	45 25		7 1.6	23	11½	55 10		1 24.9
13	10½	45 38		7 5.1	13	12	55 12		6 54.3
16	11	46 27		10 28.7	13	12½	55 38		6 58.5
13	12	46 39		6 52.1	23	11	55 49		1 21.5
16	12	46 43		10 18.9*	16	11	55 56		10 24.7
13	11	47 6		6 54.0	13	10½	56 15		6 53.2
16	11	47 11		10 23.1	23	11	56 17		1 18.4
16	10½	47 16		10 19.9	13	10	56 21		7 6.4
13	10	47 22		7 7.9	16	11	56 43		10 27.0
16	10	47 24		10 16.9	17	12	56 47		2 50.3
16	11	47 39		10 21.9	16	11	56 52		10 27.6
13	11½	48 37		6 57.2	17	11½	56 52		2 42.3
13	10½	48 45		7 2.0*	16	11	57 1		10 26.4
16	11	48 55		10 28.4	18	11	57 2		0 54.3
13	10	49 3		7 6.6	17	11½	57 17		2 39.0
16	11	49 7		10 19.3	13	10	57 19		7 6.2
16	11	49 24		10 28.9	13	10½	57 23		7 2.2
13	10	49 52		7 0.6	16	9½	57 25		10 22.4
13	11	50 35		7 2.4	18	11½	57 28		1 3.3
16	10½	51 2		10 15.4	23	11	57 28		1 26.8
13	12	51 26		7 5.1	16	10½	57 29		10 14.0
16	11	10 51 29		+ 10 27.2	18	10½	10 57 32		+ 1 9.1

• (4).

† Small companion.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
13	11	^{h. m. s.} 10 57 33	+ 7 7.9	16	12	^{h. m. s.} 11 1 21	+ 10 14.2
17	10½	57 40	2 40.3	18	12	1 22	0 57.1
16	11	57 43	10 28.7	18	11½	1 23	0 55.4
16	11½	57 56	10 24.8	16	12	1 29	10 19.3
23	10	58 3	1 22.1*	17	11	1 32	2 51.0
23	10½	58 9	1 16.1†	17	11½	1 37	2 46.6
23	9	58 10	1 25.0*	13	10½	1 40	7 3.6
13	11½	58 42	6 55.1	16	12½	1 40	10 13.8
17	10½	58 55	2 39.5	16	10½	1 46	10 21.9
16	12	58 58	10 13.0	16	11½	2 8	10 22.4
17	11	59 2	2 46.4	13	10½	2 13	6 58.7*
18	9½	59 9	0 56.1	13	9½	2 25	7 7.2
16	9	59 16	10 26.0:	18	11	2 32	1 6.5
23	11	59 22	1 24.1	18	11½	2 34	1 6.9
18	10	59 27	0 57.6	13	10	2 48	6 59.6
13	10	59 33	7 10.1	17	10½	2 53	2 44.0
18	9½	59 34	1 4.9	17	11½	2 55	2 35.7
13	10½	59 37	7 10.2	18	10½	3 1	0 59.0
18	10	59 40	1 6.9	16	11	3 12	10 19.5
23	11	59 44	1 31.7†	17	11	3 26	2 37.8
16	10½	10 59 56	10 17.3	18	9½	3 27	1 8.4
13	10	11 0 4	6 53.3	17	11½	3 29	2 35.6
23	10	0 18	1 31.3	13	11	3 46	7 4.4
17	10½	0 21	2 49.6	16	10½	3 54	10 23.0
13	10	0 33	6 55.4	23	9	4 0	1 26.9
18	10	0 35	1 0.1	16	9½	4 16	10 28.1
17	10½	0 40	2 36.4	18	10	4 16	0 54.6
13	11	0 50	6 52.9	17	10	4 20	2 47.4
23	10½	0 50	1 13.6	17	10	4 22	2 42.0
23	10	0 56	1 24.4	17	11	4 30	2 39.1
16	11½	0 57	10 24.6	17	10½	4 33	2 50.1
17	11½	0 59	2 39.1	13	10½	4 38	6 56.9
18	9½	1 8	1 3.4*	16	10½	4 46	10 30.4
23	11	1 14	1 20.5	18	10½	5 1	0 58.1
13	10	11 1 20	+ 7 9.3	18	10	11 5 2	+ 1 11.3

*(4).

† L. of double.

‡ A 12th S. p.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
16	12	h. m. s.			$^{\circ}$	16	10	h. m. s.			$^{\circ}$
		11 5 29			+10 14.3			11 8 38			+10 23.8
17	9 $\frac{1}{2}$	5 34			2 50.7	16	9 $\frac{1}{2}$	8 39			10 9.6
16	11 $\frac{1}{2}$	5 37			10 24.3	13	11 $\frac{1}{2}$	8 40			7 6.1
18	10 $\frac{1}{2}$	5 37			0 55.5	18	11 $\frac{1}{2}$	8 46			1 3.8
17	11	5 45			2 48.7	13	11 $\frac{1}{2}$	8 51			7 10.1
18	10 $\frac{1}{2}$	5 52			0 56.0	23	10	8 56			1 25.2
13	12 $\frac{1}{2}$	5 53			7 2.9	18	12	9 1			1 2.7
18	10	6 0			1 0.3	17	11	9 4			2 47.7
23	11	6 3			1 28.2	17	11	9 21			2 44.7
23	11	6 3			1 29.3	13	12	9 51			7 4.9
16	11	6 4			10 15.6	18	12	9 53			0 58.2
16	11 $\frac{1}{2}$	6 5			10 13.5	16	10 $\frac{1}{2}$	10 4			10 11.5
23	11 $\frac{1}{2}$	6 13			1 24.0	18	11 $\frac{1}{2}$	10 5			1 4.2
13	10 $\frac{1}{2}$	6 25			7 9.9	18	11	10 18			1 4.3
18	9 $\frac{1}{2}$	6 26			1 8.1	16	11	10 19			10 19.7†
23	10 $\frac{1}{2}$	6 27			1 24.8	17	10 $\frac{1}{2}$	10 20			2 39.1
13	11	6 29			7 6.0	13	10	10 30			6 59.4†
16	10 $\frac{1}{2}$	6 48			10 16.7	23	10 $\frac{1}{2}$	10 39			1 24.0†
17	10	6 51			2 38.3	23	10	10 47			1 13.9
16	11	6 55			10 20.7	23	9 $\frac{1}{2}$	10 49			1 22.6
16	11	7 6			10 26.6	17	9 $\frac{1}{2}$	11 6			2 46.2
17	10	7 8			2 33.6	23	11	11 11			1 22.1
16	11	7 16			10 22.4	18	9	11 24			0 57.8
17	11 $\frac{1}{2}$	7 18			2 45.9	17	11	11 27			2 46.7
17	11 $\frac{1}{2}$	7 35			2 44.5	18	11 $\frac{1}{2}$	11 27			0 53.4
17	11	7 44			2 33.3*	13	10	11 30			6 58.9
23	10 $\frac{1}{2}$	7 53			1 26.3	13	11	11 43			7 6.6
18	12	7 56			0 56.9	17	11	11 46			2 45.5
23	10	7 57			1 25.6	17	11	11 54			2 48.7
18	11	8 1			1 3.1	23	10 $\frac{1}{2}$	11 57			1 14.9
18	10 $\frac{1}{2}$	8 6			1 8.4	13	9 $\frac{1}{2}$	11 58			7 5.3
18	10 $\frac{1}{2}$	8 20			0 54.6	17	10 $\frac{1}{2}$	12 13			2 35.2
16	10	8 22			10 8.9	17	11	12 17			2 46.2
13	11	8 30			6 59.4†	23	11	12 36			1 31.9
13	10	11 8 35			+ 7 11.4	23	11	11 12 43			+ 1 23.2

* Double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	11	^{h. m. s.} 11 12 44	^{° ' "} + 2 47.3	17	11½	^{h. m. s.} 11 17 13	^{° ' "} + 2 38.1
18	10½	12 49	1 9.4	17	11	17 21	2 34.4
23	11½	13 1	1 31.0	18	9½	17 22	0 56.4
18	11	13 4	1 3.2*	23	11	17 34	1 13.5
23	10½	13 10	1 31.2	16	9	17 39	3 7.1
18	10½	13 56	1 2.0	13	11½	17 45	6 54.7
17	10	13 59	2 46.8	23	10½	17 49	1 24.9
17	11	14 8	2 36.7	17	10	17 51	2 47.5
17	10½	14 14	2 41.2	18	12	17 53	1 5.2
23	10½	14 25	1 22.3	18	10½	17 54	1 7.8
13	10½	14 34	7 11.7	23	11	17 56	1 15.2
16	10½	14 37	3 4.7	13	12	18 4	6 56.2
16	9	14 38	10 26.6	13	12½	18 4	6 54.1
17	10½	14 44	2 51.6	16	10	18 10	2 59.6
18	11	14 58	0 54.6	13	12½	18 13	6 54.6
17	9	15 2	2 49.9	23	11	18 17	1 20.0
16	11	15 6	2 59.3	18	10½	18 44	1 2.0
23	11½	15 16	1 27.8	17	11	18 54	2 36.0†
13	10	15 17	7 8.7	16	11	18 56	3 1.7
23	11½	15 17	1 26.3	18	10½	19 10	0 55.2
16	11½	15 22	3 0.6	16	11	19 14	2 55.5
18	10	15 23	0 57.8	17	10½	19 14	2 37.2
16	11	15 26	3 1.8	13	11½	19 20	7 3.6
23	9	15 49	1 17.0	16	11½	19 26	3 6.9
13	11½	16 3	7 9.8	23	11	19 32	1 20.7
18	12	16 3	1 5.6	13	12	19 36	7 9.7†
23	10½	16 11	1 15.1	23	11½	19 44	1 17.6
18	11	16 27	0 53.8	18	11	19 51	1 9.2
17	9½	16 29	2 40.0*	26	9½	20 2	2 55.9
23	11½	16 31	1 16.6	23	10½	20 5	1 29.4
13	10½	16 38	7 9.7	17	9½	20 10	2 40.2*
18	10	16 40	1 8.9	17	11	20 27	2 42.5
16	11½	16 41	2 55.9	13	12	20 34	7 12.2
23	11	16 52	1 29.7	18	11	20 36	1 6.2
23	9½	11 17 8	+ 1 12.1	17	11	11 20 38	+ 2 38.5

* (4).

† A 12th s.

‡ S. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
23	10½	11 20 50	+ 1 21.2	18	11	11 24 24	+ 1 3.0*
26	11½	20 52	2 58.3	23	9½	24 42	1 25.5
17	8½	20 58	2 41.8*	18	11½	24 49	0 57.9
26	9½	20 59	2 59.4	18	11	24 56	1 5.4
13	9½	21 0	7 7.0	23	11	24 58	1 14.6
18	11	21 2	1 3.5	17	12½	25 14	2 33.1
16	11	21 4	2 58.8	17	11	25 22	2 35.2
16	11½	21 4	3 11.7	17	11½	25 25	2 33.5
17	10	21 9	2 40.8	13	11	25 27	7 4.5
18	10½	21 10	1 6.8	18	11	25 37	0 54.1
23	10½	21 23	1 27.8	13	11	25 42	7 2.4
23	10	21 30	1 29.6	16	9½	25 43	2 59.3
13	11½	21 34	6 52.4	18	12	25 45	0 53.3
18	10½	21 44	1 6.6	17	9½	25 48	2 39.1
13	10½	21 48	7 1.6†	18	10½	25 56	0 56.0
18	9½	21 50	1 3.2	16	9	25 57	2 56.9
16	11½	22 5	3 10.7	17	9½	26 8	2 34.7
16	12	22 34	3 9.2	16	12½	26 9	2 55.3
17	12	22 48	2 46.6	18	10	26 26	0 57.6
18 23	11	22 58	1 13.7	13	11	26 33	7 5.3
13	11½	23 14	6 54.3	13	11	26 42	7 4.7
18	11½	23 16	1 9.2	17	10	26 43	2 34.2
17	11	23 20	2 48.4	18	11½	26 54	0 54.5
13	11	23 23	7 9.3	16	11	26 56	2 57.6
18	12	23 41	1 6.6	18	11	27 22	0 58.8
17	10½	23 42	2 42.1	23	11	27 23	+ 1 15.1 :
18	12	23 44	1 8.3	24	10	27 26	— 0 47.3
16	10½	23 50	3 5.0*	16	11½	27 30	+ 2 58.0
16	11½	23 56	3 4.6*	13	11	27 42	6 55.7
16	10½	24 0	2 58.9	16	11	27 44	2 59.0
17	11	24 5	2 47.9	17	11	27 49	2 46.7
17	11½	24 6	2 40.3*	18	11½	27 52	0 59.6
18	10	24 7	0 53.5	16	11½	27 54	2 59.6
13	11½	24 12	6 53.2	13	11½	28 1	6 57.7
13	11	11 24 24	+ 6 56.0	17	10½	11 28 8	+ 2 31.9

* (4).

† A 10½ S. J.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
24	11	11 28 10	— 1 3.3	13	10½	11 31 39	+ 6 59.3
18	12	28 24	+ 0 59.6	18	11	31 40	1 2.5
16	10½	28 28	2 53.2	16	11	31 46	2 51.8
18	10	28 29	+ 0 59.0	20	11	31 47	+ 0 12.3
24	10½	28 29	— 0 57.0	24	11	31 56	— 0 56.5
23	9½	28 48	+ 1 22.7	18	12	32 1	+ 0 59.9
17	10½	29 0	2 46.2	20	11	32 6	0 10.7
17	10½	29 4	2 42.7	16	11½	32 14	2 57.3
23	10	29 8	1 31.8	18	10½	32 22	+ 0 57.7
13	12	29 9	6 56.2	24	10½	32 23	— 0 59.4†
17	12	29 10	2 47.9	20	11	32 26	+ 0 12.9
20	11	29 19	0 28.9	17	11	32 31	2 35.3
20	11½	29 22	0 21.1*	17	12	32 32	2 36.9
17	11	29 24	2 48.3	16	11½	32 35	3 3.5
20	11	29 24	0 28.9	16	11	32 40	3 6.7
20	12½	29 27	+ 0 21.3	17	9½	32 42	2 45.2
24	10½	29 28	— 0 47.3	18	11	32 49	1 0.3
18	12	29 35	+ 1 1.3	16	12½	32 51	2 55.3
13	11½	29 54	6 55.8	16	11½	32 54	3 1.0
18	12	29 54	0 56.4	18	11	33 8	1 2.0
16	11½	30 1	3 1.2	18	11	33 9	0 57.3
16	9½	30 1	3 0.2	18	12	33 11	0 55.9
18	10½	30 2	0 59.2	17	11	33 14	2 43.3
20	11	30 16	0 29.6	20	12½	33 18	0 28.1
18	12	30 19	0 56.9	17	11	33 22	2 44.1
20	10	30 22	0 23.4	20	12½	33 27	0 22.0
17	11	30 24	2 32.3	20	12	33 30	0 30.1
16	12	30 27	2 57.7	13	11	33 34	+ 6 57.9
16	11	30 29	3 2.1	24	10	33 46	— 0 59.5
18	11½	30 33	0 58.8	13	12	33 54	+ 6 56.0
20	10½	30 35	0 21.0	17	9½	33 56	2 45.4
17	10½	30 39	2 30.2	16	10	33 57	3 8.9
13	10½	30 49	6 57.3	16	11½	34 10	2 53.9
13	10	30 55	6 55.7	13	9½	34 14	6 58.3
13	10	11 31 38	+ 6 59.9	20	11½	11 34 16	+ 0 17.2

* S. of double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
16	11	11 34 17	+ 3 8.3	17	11	11 39 28	+ 2 44.8
18	11½	34 29	+ 1 6.4	24	11½	39 46	— 0 57.0
24	11	34 29	— 1 3.5	16	11½	39 51	+ 2 56.6
17	11½	34 35	+ 2 37.0	20	10½	39 53	0 17.6
20	11½	34 35	0 28.4	20	10	40 13	0 22.0
18	11	34 57	1 5.3	16 17	9	40 15	2 52.5
18	9½	34 58	0 56.3	17	10	40 23	2 38.0
20	11	35 9	0 30.7	16 17	10½	40 31	2 54.0
17	10½	35 16	2 37.9	20	11	40 41	+ 0 19.4
17	9	35 16	2 53.1	24	11	40 51	— 0 46.9
17	10½	35 18	+ 2 47.2	17	11	41 4	+ 2 40.0
24	11	35 46	— 1 0.5	20	11	41 14	0 25.0
17	9½	35 50	+ 2 45.4	16	11½	41 24	2 55.3
20	11	36 7	0 26.7	20	11	41 25	0 29.8
17	9½	36 12	2 36.8	17	12	41 30	2 45.5
20	10½	36 37	0 25.7	17	10½	41 34	2 46.1
20	9	36 46	0 27.3	16	9½	42 8	+ 3 11.5
17	11	36 55	2 33.8	24	11	42 41	— 0 50.0
17	11½	37 42	2 45.5	16	10½	42 43	+ 2 57.1
17	10½	37 48	2 49.6	20	11	42 45	0 33.9
16	11	37 50	2 51.2	20	10	42 46	0 19.1
16	10½	37 58	+ 2 54.6	16	10½	42 56	3 4.8
24	11½	38 0	— 1 4.3	20	10½	43 15	0 34.4
24	11	38 8	— 0 59.5*	17	11	43 30	2 37.2
20	11½	38 22	+ 0 27.9	17	11½	43 59	+ 2 53.7
20	12	38 25	0 28.0	24	9½	43 59	— 1 0.9
16	11½	38 29	+ 2 55.7	16	10	44 20	+ 3 8.1
24	10	38 33	— 0 49.5	16	12	44 32	3 7.7
16	11½	38 37	+ 2 55.2	17	11	44 44	2 48.4
24	11	38 38	— 0 59.6	17	11	44 47	2 46.0
16	11½	38 45	+ 2 55.4	16	11½	44 51	3 6.9
17	10½	38 47	2 33.6	16	11½	44 51	3 9.4
20	11½	38 59	0 31.9	16	10	45 30	2 57.3
20	10½	39 9	0 21.9*	16	11	45 38	+ 3 4.5
20	11½	11 39 19	+ 0 14.6	24	10	11 45 55	— 0 52.9

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	11	^{h. m. s.} 11 45 56	+ 2 47.5	17	11	^{h. m. s.} 11 50 49	+ 2 48.3
24	10	46 3	— 0 51.6	24	11	51 17	— 0 56.4
16	11	46 4	+ 3 0.6	16	10	51 21	+ 3 1.5†
16	11	46 4	2 56.8	16	12	51 49	3 0.3
17	11½	46 4	2 47.1	17	10	51 49	2 46.8
17	12	46 13	2 45.9	20	11	52 6	0 21.6*
20	10	46 18	+ 0 18.1	17	10	52 16	2 48.4
24	10½	46 18	— 0 56.7*	20	11½	52 16	0 20.1
24	10	46 59	— 0 51.8	20	11½	52 19	0 30.9
20	10½	47 2	+ 0 25.7	16	12½	52 25	2 58.2
17	11	47 7	2 48.4	16	11	52 27	2 56.7
16	10½	47 8	+ 2 59.0	17	11	52 53	2 49.6
24	11	47 15	— 1 4.2	16	10	53 9	+ 2 56.6
17	10	47 36	+ 2 48.5	24	11	53 30	— 0 54.2
16	10	47 41	2 59.3	17	10	53 50	+ 2 50.3
16	10	47 56	3 10.6	20	11½	54 2	+ 0 27.1
16	11	48 21	3 8.7	24	11½	54 16	— 1 5.3
20	11½	48 28	+ 0 22.7	16	11	54 24	+ 3 10.4
24	10½	48 44	— 1 6.1	16	10½	54 30	2 59.7
17	11	48 47	+ 2 46.6	16	10½	54 33	3 2.6
20	10½	48 49	0 25.8	16	11½	54 51	3 0.7
20	11	48 50	+ 0 17.4	20	10	54 59	0 26.9
24	11	48 51	— 1 5.1	20	11½	55 1	0 12.3
20	11½	49 5	+ 0 26.9	20	11½	55 6	0 17.2
20	10½	49 14	0 19.7	17	11	55 7	2 48.0†
20	11	49 36	0 14.3	16	10	55 55	3 2.6
16	12	49 47	+ 3 5.3	20	11½	56 0	0 10.5
24	11½	49 51	— 0 52.5	16	10½	56 2	2 56.8
17	12	50 13	+ 2 40.1	20	10	56 17	0 15.0
17	11	50 21	2 47.4	16	12	56 33	+ 2 58.9
16	12	50 27	3 2.6	23	10½	56 44	— 4 54.3
17	12	50 33	2 40.2	17	10	56 52	+ 2 50.0
17	10	50 36	2 50.5	17	10	56 55	2 50.5
20	12	50 40	0 27.0	16	10½	57 3	+ 2 57.2
20	12	11 50 42	+ 0 29.9	23	11½	11 57 13	— 4 50.8

* (4).

† An 11th S.

‡ A faint neb., N. p.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	10	^{h. m. s.} 11 57 37	+ 2 32.6	18	10	^{h. m. s.} 12 1 41	- 6 2.3
17	10½	57 39	2 29.7	18	10½	1 54	5 49.8
16	10½	57 40	+ 3 1.6	18	11	2 1	6 6.3
18	11½	58 1	- 5 49.4	18	10½	2 10	5 59.5
20	11	58 1	+ 0 30.8	18	11½	2 22	- 5 58.7
23	10	58 2	- 4 51.1	20	12	2 25	+ 0 23.8
18	11	58 4	- 5 53.4	23	11	2 28	- 5 8.3
17	10½	58 12	+ 2 49.4	23	11½	2 34	4 59.4
16	10½	58 18	+ 3 9.5	18	11	2 38	6 4.5
18	11	58 28	- 5 50.8	18	11	2 55	- 6 2.0
20	11	58 29	+ 0 11.0	20	11½	3 4	+ 0 26.5
16	10½	58 41	3 6.4	20	10½	3 9	0 30.0
16	11	58 56	+ 3 5.8	20	10	3 10	+ 0 23.4†
23	10½	58 58	- 5 2.8	23	11	3 21	- 4 53.3
20	11	59 18	+ 0 13.5	23	11	3 32	5 1.5
17	12	59 30	2 47.5	18	11½	3 38	5 48.4†
20	10½	59 31	+ 0 20.2	18	10	3 46	- 5 51.4
23	10	59 36	- 4 53.3	20	11	4 0	+ 0 21.6
18	10½	59 37	5 53.0	16	11½	4 6	3 7.9
23	10½	59 39	5 1.1	20	10½	4 15	+ 0 21.1†
23	11½	11 59 49	5 6.0	18	9½	4 20	- 6 3.1
18	10	12 0 18	- 5 53.5	16	11	4 21	+ 3 5.3
17	10½	0 28	+ 2 35.3	23	10½	4 39	- 5 8.1
16	10½	0 44	3 10.1	23	11½	4 41	- 4 49.1
17	10½	0 47	+ 2 47.1	20	11	5 25	+ 0 21.0
23	10	0 54	- 4 54.8	20	12	5 38	+ 0 30.0
16	12	0 55	+ 3 9.5	23	10½	5 53	- 4 45.6
20	11	0 55	+ 0 20.8	20	11½	5 58	+ 0 18.6
23	10	0 57	- 5 0.5*	20	9	6 12	+ 0 26.5
18	10½	1 4	6 6.1	18	10	6 31	- 5 39.6†
18	11	1 6	- 5 52.6	18	11	7 20	5 54.1
17	11½	1 14	+ 2 46.6	23	11½	7 20	5 3.3†
23	11	1 14	- 4 51.6	18	11½	7 22	- 5 53.1
18	11½	1 17	- 5 53.2	20	10	7 22	+ 0 15.8
16	10	12 1 36	+ 3 5.3†	23	10½	12 7 22	- 5 0.6

* Small star p.

† (4).

‡ L. of double.

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
20	10 $\frac{1}{2}$	h. m. s.			18	11 $\frac{1}{2}$	h. m. s.		
		12 7 36	+	0 24.5			12 14 2	-	5 52.3
20	9 $\frac{1}{2}$	7 44	0	33.9	20	11	14 11	+	0 19.6
20	11	7 47	0	16.9	20	10	14 17	+	0 14.1
20	11 $\frac{1}{2}$	7 55	+	0 23.4	17	11	14 25	-	2 25.2
18	11 $\frac{1}{2}$	8 26	-	6 1.0	18	10	14 27	-	6 2.5
23	10	8 34	4	49.8	20	11 $\frac{1}{2}$	14 32	+	0 19.5
18	9 $\frac{1}{2}$	8 40	5	47.6	18	10	14 42	-	6 6.8
23	10	8 46	4	51.5	23	10	15 1	-	4 54.9*
18	9	8 55	6	0.2	20	11	15 2	+	0 16.7
18	11	9 15	-	6 10.1	18	10 $\frac{1}{2}$	15 18	-	5 59.6
20	10 $\frac{1}{2}$	9 26	+	0 32.1	23	10	15 29	4	50.0
20	11	9 31	0	19.1	17	11	15 32	2	4.5
20	11 $\frac{1}{2}$	10 22	+	0 29.6	18	9 $\frac{1}{2}$	15 41	5	59.2*
23	11 $\frac{1}{2}$	10 42	-	4 48.0	17	11	16 11	2	8.6
23	11 $\frac{1}{2}$	10 51	4	55.9	17	10	16 13	2	12.7
18	9	10 56	5	48.9	23	10 $\frac{1}{2}$	16 28	5	9.0
23	11 $\frac{1}{2}$	11 2	4	50.1	17	11	16 31	-	2 15.1
18	12 $\frac{1}{2}$	11 4	5	59.1	20	10	16 41	+	0 16.6
23	10 $\frac{1}{2}$	11 21	5	3.3	20	9 $\frac{1}{2}$	16 45	0	21.1*
18	11	11 33	5	45.9	20	9 $\frac{1}{2}$	17 9	+	0 26.5
18	10 $\frac{1}{2}$	11 50	5	46.8	18	12	17 12	-	5 49.2
18	11	11 53	5	52.4	18	11	17 13	5	53.5
18	12	12 46	6	2.0	17	10 $\frac{1}{2}$	17 23	2	23.9
18	12	12 54	5	48.7	23	11 $\frac{1}{2}$	17 28	4	58.3
18	11 $\frac{1}{2}$	12 55	5	50.8	23	11 $\frac{1}{2}$	17 33	4	54.3
23	10 $\frac{1}{2}$	13 28	4	58.5	18	11 $\frac{1}{2}$	17 39	6	0.9†
23	12	13 31	-	4 59.8	17	9 $\frac{1}{2}$	17 52	2	10.4
20	10	13 35	+	0 10.8	18	11	18 5	5	51.5
23	10 $\frac{1}{2}$	13 39	-	5 4.9	17	10	18 11	2	29.5
18	11	13 43	6	1.6	18	10 $\frac{1}{2}$	18 31	6	2.0
23	11 $\frac{1}{2}$	13 49	4	59.7	18	10 $\frac{1}{2}$	18 53	5	48.4
17	11	13 50	2	6.3	18	11 $\frac{1}{2}$	19 4	5	53.5
18	10 $\frac{1}{2}$	13 50	5	50.0	23	11 $\frac{1}{2}$	19 8	-	4 52.8
23	10	13 51	5	3.7	20	12	19 21	+	0 27.5
17	10 $\frac{1}{2}$	12 13 56	-	2 19.5	17	10	12 19 36	-	2 23.2

* (4).

† An 11 $\frac{1}{2}$ S. p.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	^{° ' "}			^{h. m. s.}	^{° ' "}
17	10	12 19 38	- 2 24.6	17	11½	12 24 24	- 2 20.1
18	10½	19 47	5 53.2	20	10½	24 31	+ 0 23.8
18	10½	19 50	6 9.4	18	11½	24 35	- 5 55.5
23	11	19 54	- 4 52.6	23	11½	24 54	5 0.3
20	11½	20 3	+ 0 27.6	17	9	24 59	2 18.9*
20	10½	20 6	+ 0 24.2	18	11	25 4	5 57.4
18	9½	20 8	- 6 10.6	23	9	25 20	4 49.8
23	11	20 9	5 0.4	23	11½	25 24	- 4 58.4
17	11½	20 18	- 2 8.3	20	10½	25 37	+ 0 11.0†
20	10½	20 19	+ 0 25.2	17	11	25 41	- 2 15.9
18	8	20 21	- 6 5.5	20	12	26 9	+ 0 31.3
20	12	20 27	+ 0 20.0	20	12	26 17	+ 0 30.9
20	12	20 32	0 20.5	23	9	26 19	- 4 58.1*
20	12	20 40	+ 0 20.1	20	11	26 59	+ 0 11.6
17	10½	20 54	- 2 24.9	16	10½	27 4	- 6 16.1
17	10½	21 19	2 25.0	18	9½	27 19	5 51.2
18	10½	21 32	6 5.0	23	11½	27 21	5 0.6
17	11½	21 44	- 2 14.6	23	11½	27 23	5 3.9
20	11	21 47	+ 0 34.9	18	12	27 28	- 5 56.6
23	11½	21 52	- 4 52.8	20	11½	27 34	+ 0 13.0
20	12	22 2	+ 0 28.4	20	10½	27 36	+ 0 15.9
23	10	22 4	- 5 4.1	17	9½	27 40	- 2 23.2
23	11½	22 13	5 2.8	17	10	27 41	2 20.0
17	11	22 15	2 15.6	16	11	28 0	6 26.0
18	10	22 17	- 5 53.3	17	10	28 4	2 20.7
20	12½	22 23	+ 0 31.0	23	11	28 6	- 4 55.4
17	11½	22 35	- 2 20.5	20	11½	28 8	+ 0 25.8
23	11	22 47	- 5 3.4	18	11½	28 12	- 5 59.5
20	12	23 20	+ 0 28.0	18	10	28 16	- 6 2.9
20	10	23 32	+ 0 25.8	20	11½	28 32	+ 0 20.6
23	11½	23 34	- 5 0.1	16	11½	28 36	- 6 9.7
17	11½	23 36	- 2 12.8	20	11½	28 40	+ 0 18.4
20	11½	23 40	+ 0 30.1	18	11½	28 41	- 6 3.6
17	11	23 57	- 2 17.6	18	11	28 46	5 54.9
18	11½	12 24 10	- 6 0.9	16	10	12 28 52	- 6 25.9

* (4).

† L. of group.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
16 18	10 $\frac{1}{2}$	^{h. m. s.} 12 29 24	— 6 5.9	23	11 $\frac{1}{2}$	^{h. m. s.} 12 33 9	— 5 3.5
16	11 $\frac{1}{2}$	29 40	5 56.6	16	10	33 13	6 21.4
16	11 $\frac{1}{2}$	30 1	6 12.7	16	11	33 25	6 22.6
23	10	30 12	4 57.2	23	10	33 34	4 56.5
17	10 $\frac{1}{2}$	30 15	— 2 26.6	18	10	33 46	5 51.9
20	12	30 16	+ 0 27.7	17	11	34 2	2 22.9
20	11	30 16	+ 0 28.9	18	11	34 39	5 7.1
16	10 $\frac{1}{2}$	30 17	— 6 11.3	18	11	34 44	5 7.1
16	11 $\frac{1}{2}$	30 19	6 20.5	16	11 $\frac{1}{2}$	34 52	6 21.1
23	11 $\frac{1}{2}$	30 22	5 2.9	16	10	34 53	6 23.4
16	10	30 26	6 13.5	17	10 $\frac{1}{2}$	35 3	2 20.8
16	11	30 29	6 10.2	16	10	35 6	6 11.5
18	12	30 31	— 6 2.0	16 18	10	35 10	6 9.7
20	11	30 33	+ 0 31.6	23	10	35 23	4 54.3
17	10 $\frac{1}{2}$	30 36	— 2 18.3	23	11	35 44	5 0.6
18	11 $\frac{1}{2}$	30 47	6 6.2	18	11 $\frac{1}{2}$	35 49	6 3.1
17	10	31 12	— 2 23.9	17	10 $\frac{1}{2}$	35 54	2 16.7
20	11 $\frac{1}{2}$	31 23	+ 0 28.2	16	11	36 4	6 22.6
20	11 $\frac{1}{2}$	31 30	+ 0 24.3	17	10	36 7	2 8.2
23	11	31 35	— 4 54.3	17	11	36 32	2 13.3
18	11	31 37	6 5.2	17	10 $\frac{1}{2}$	36 32	2 11.0
23	11 $\frac{1}{2}$	31 39	4 52.8	18	9 $\frac{1}{2}$	37 0	5 46.7
18	11	31 41	6 7.6	16	11	37 5	6 9.8
23	11 $\frac{1}{2}$	31 42	4 59.5	18	11 $\frac{1}{2}$	37 10	5 55.1
16	9	31 46	6 6.2	16	11	37 12	6 14.7
17	11 $\frac{1}{2}$	32 1	2 12.7	16	10 $\frac{1}{2}$	37 24	6 7.9
16	10	32 8	6 17.9	23	11	37 26	5 3.4
16	9 $\frac{1}{2}$	32 22	— 6 14.0	18	11 $\frac{1}{2}$	37 35	5 54.7
20	10	32 31	+ 0 14.6	16	10	37 45	6 25.5
17	11	32 44	— 2 20.0	16	11	37 53	6 25.8
23	12	32 44	4 52.0	18	11 $\frac{1}{2}$	37 55	6 3.1
18	12	32 56	5 53.6	16	11 $\frac{1}{2}$	38 17	6 25.7
16	11	33 0	6 15.5	17	10 $\frac{1}{2}$	38 18	2 12.6
17	10 $\frac{1}{2}$	33 0	2 12.8	17	11	38 19	2 27.2
16	12	12 33 7	— 6 19.3	16	9 $\frac{1}{2}$	12 38 39	— 6 29.1

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
17	11½	12 38 52	2 26.6	16	11½	12 44 48	6 19.9
16	11½	39 5	6 4.6*	23	11½	44 48	4 51.5
17	10	39 7	2 24.9	18	11	44 50	5 51.1
18	10½	39 21	5 59.5†	23	10	44 51	4 50.4
17	10	39 23	2 8.4	17	11	44 54	2 10.7
18	11½	39 33	5 56.0	17	11½	44 56	2 13.1
23	10	39 34	4 55.7	18	9½	45 6	6 3.4
17	11	39 47	2 24.7	17	11	45 17	2 12.8
18	10½	39 54	5 59.1	18	10½	45 26	6 1.8
16	10	39 56	6 20.9	23	10	45 26	5 8.5
16	11½	39 58	6 22.9	17	11½	45 27	2 14.3
17	10	39 58	2 26.7	17	11	45 36	2 10.1
23	11	40 2	4 52.4	17	11	46 11	2 24.1
17	11½	40 30	2 25.7	18	10	46 13	6 0.8
16	12	40 39	6 16.2†	18	10½	46 26	5 52.9
17	12	40 50	2 23.7	18	10½	46 34	5 54.8
23	Neb.	40 51	4 58.8	17	11	46 38	2 9.5
23	10	40 52	5 4.4	18	10½	46 50	5 59.9
18	12½	41 18	5 59.1	17	12	46 56	2 23.5
18	9½	41 18	5 52.8	17	11	47 13	2 23.5
23	11	41 23	4 59.6	23	10½	47 19	5 2.0
18	12½	41 26	5 59.1	17	11½	47 29	2 24.7
17	10½	41 34	2 22.9	23	11	47 51	4 47.4
17	10½	41 36	2 21.7	23	11	47 52	4 49.6
17	10	42 6	2 12.4	17	10½	47 57	2 23.3
17	10	42 22	2 24.4	17	11	48 10	2 23.3
18	11½	42 25	5 56.7	18	10	48 13	6 6.7
18	11	42 55	6 5.7	17	11½	48 16	2 25.2
17	11½	43 34	2 25.5	18	11	48 34	6 4.5
18	10	43 39	6 5.0	17	10	48 46	2 13.9
18	11	43 40	6 7.2	18	12½	48 51	6 6.3
18	11	43 43	6 4.0	17	12	49 3	2 12.5
17	11½	43 53	2 14.8	23	11	49 14	5 2.0
23	9½	44 8	4 59.2	17	10½	49 23	2 22.5
16	10½	12 44 30	6 14.1	23	11	12 49 24	5 2.8

* An 11½ s.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
16	11	^{h. m. s.} 12 49 38	[°] 6 12.4	17	10½	^{h. m. s.} 12 57 14	[°] 2 21.0
23	10	49 52	5 7.6	16	12	57 16	11 29.9
17	11	49 55	2 23.3	18	11½	57 27	6 3.7
18	11	49 55	5 59.1*	23	11	57 35	4 53.9
18	10	49 55	6 5.0	16	10½	57 37	11 7.7
17	10½	50 8	2 11.4	18	10	57 42	6 8.3
23	11	50 28	5 3.7	17	11	58 20	2 12.5
18	11½	50 29	6 4.2	18	11½	58 31	5 53.2
23	11	50 31	5 8.8	18	10½	58 32	5 51.5
23	11	50 48	4 53.8†	16	11	58 35	11 28.2
17	10½	50 49	2 24.6	23	11½	58 36	5 3.4
16	10½	50 58	6 16.0	17	11	58 45	2 22.5
23	11½	51 1	5 8.1	17	11½	59 3	2 24.2
18	11	51 4	6 2.9	23	10½	59 3	5 3.8
18	12	51 21	6 1.5	16	10½	59 10	11 22.1
23	10	52 1	4 55.1	16	10	59 12	11 12.0
17	9½	52 8	2 16.8	23	11½	59 12	5 4.4
18	11	52 17	6 3.6	16	10½	59 20	11 11.4
18	11	52 24	6 4.2	23	11	59 21	4 49.9
23	11	53 41	5 5.2	23	11	59 23	4 48.7†
17	9½	53 44	2 10.7	17	10	59 35	2 20.0
17	11½	53 54	2 16.5	18	12	12 59 38	6 5.7
18	10	54 37	5 58.0	18	11½	13 0 3	5 49.1
17	11½	54 59	2 27.0	17	11	0 5	2 24.1
23	11½	55 29	5 3.8	23	11½	0 8	4 47.9
17	11	55 36	2 12.0	16	10	0 10	11 11.0
18	10	56 2	5 56.8	23	11½	0 16	4 50.2
18	11½	56 12	5 51.9	18	12	0 35	5 52.1
23	10½	56 32	4 55.2	18	11	0 35	5 59.9
17	11	56 36	2 12.1	17	10½	0 36	2 22.2
18	10	56 39	6 4.3	16	10½	0 45	11 12.3
16	10	56 46	11 25.2	16	11	0 58	11 17.6
16	10	56 49	11 25.7	17	11	0 59	2 21.3
23	11½	56 54	4 53.4	18	10	1 3	5 59.5
23	11½	12 57 13	— 4 52.8	23	10½	13 1 3	— 5 2.6

• (4).

† L. of Double.

M

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
23	10½	h. m. s.	°	'	16	11½	h. m. s.	°	'		
16	11½	13 1 4	—	5	1.8	18	10	13 7 4	—	11	12.6
17	12	1 5	11	16.1	18	11	7 10	5	52.5		
23	11	1 16	2	19.7	16	10	7 13	5	52.5		
16	10½	1 18	5	3.3	23	11½	7 23	11	12.1		
16	10½	1 46	11	6.9	16	11	7 32	4	51.8		
17	9½	1 47	11	7.5	16	11	7 35	11	23.3		
23	10½	1 51	2	24.4	16	11	7 54	11	17.2		
17	10½	1 52	4	54.3	23	11½	8 0	4	59.7		
17	10	2 9	2	19.6	18	12	8 6	6	6.2		
23	11½	2 15	2	10.0	16	11	8 13	11	19.9		
16	10½	2 26	4	55.3	18	12½	8 24	6	4.6		
18	11	2 32	11	17.8	18	11	8 34	6	6.5		
16	11	2 40	6	8.3	18	12	9 13	5	50.8		
18		2 45	11	31.0	16	11	9 21	11	20.0		
17	12	2 57	6	8.3	18	11½	9 24	5	54.4		
17	9	2 59	2	24.2	16	10½	9 35	11	27.6		
17	12	3 5	2	29.4	23	12	9 38	4	50.4		
18	11½	3 9	2	24.4	18	12	9 40	5	50.7		
18	9½	3 28	6	4.2	23	11	9 41	4	49.6		
23	9½	3 54	6	0.0	16	11	9 47	11	20.3		
18	10½	3 55	4	59.7	23	11	10 3	4	58.5†		
16	11½	3 57	6	2.3	23	12	10 10	4	58.5		
23	11½	4 17	11	6.7	23	11½	10 36	4	55.9		
23	11½	4 21	4	58.8	18	12	10 45	5	53.1		
18	10	4 25	5	3.8	23	10	12 30	4	52.1		
16	11	4 28	6	5.2	16	11	12 34	11	14.2		
18	11½	4 38	11	14.2	23	10½	12 36	4	55.6		
18	9½	4 45	6	5.0	23	10½	12 40	4	53.5		
16	11	5 1	6	3.0*	18	10½	13 0	5	51.4		
23	11	5 4	11	20.0	18	11	13 5	5	49.7		
18	12½	5 59	4	54.7	16	11½	13 7	11	28.1		
23	11½	6 26	6	4.0	18	10½	13 26	6	2.5		
18	9½	6 28	4	44.6	18	10½	13 29	6	2.8		
18	11½	6 31	6	1.0	16	10	13 31	11	13.2		
18	11½	—	5	48.6	18	10½	13 53	—	6	2.3	

* An 11½ N. J.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
16	9	^{h. m. s.} 13 14 12	[°] —11 23.9*	16	12	^{h. m. s.} 13 20 5	[°] —11 21.6
16	11½	14 13	11 17.8	16	12	20 14	11 23.1
16	11	14 56	11 15.1	23	9½	20 14	4 52.9
16	11½	15 3	11 23.8	16	10½	20 25	11 24.9
16	11½	15 4	11 20.3	16	11	20 27	11 17.2
23	11	15 28	5 2.9	16	12	20 37	11 24.7
18	11	15 29	5 56.3†	18	11½	20 48	6 7.5
23	11½	15 34	5 4.2	18	10½	21 25	6 5.6
18	11½	15 36	6 1.3	23	11	21 35	5 6.2
18	10½	15 39	6 6.7	18	11	21 38	5 53.8
16	10	15 45	11 21.8	16	11½	21 46	11 21.0
16	12	16 1	11 11.8	16	11½	21 50	11 25.6
23	11½	16 4	4 53.7	16	11	22 6	11 18.2
16	11½	16 5	11 21.4	18	11	22 18	5 52.1
18	11	17 5	5 59.8	16	9	22 27	11 18.2†
23	10½	17 18	4 54.3	23	10½	22 27	5 6.3
18	11½	17 28	5 48.7	18	11½	22 30	5 59.4†
16	10	17 35	11 23.5	18	11½	22 41	6 4.1
16	11	17 39	11 9.4	23	10½	23 1	5 0.1
18	10	17 41	5 59.6	18	11	23 12	5 55.8
23	11	17 43	4 58.9	18	10	23 24	6 3.0
16	11	17 49	11 12.0	16	10	24 11	11 24.3
23	11	17 49	4 55.8†	16	11½	24 13	11 21.0
23	11½	17 50	4 54.2	23	11	24 20	5 2.6
18	10	17 59	6 7.9	16	10	24 30	11 14.2
18	9½	18 4	6 0.8	23	11	24 35	4 53.8
18	9½	18 23	5 58.7	16	10	24 40	11 14.0
16	10	18 26	11 12.5	18	11	24 44	5 56.3†
16	11	18 32	11 13.5	16	11	25 0	11 14.2
16	10	18 44	11 15.5	18	11	25 11	5 54.0
23	10½	19 14	5 4.9	16	10½	25 14	11 9.8
16	11½	19 40	11 25.5	18	11	25 16	5 58.7
18	10	19 47	6 4.0	16	11	25 22	11 13.7
18	12	19 51	5 49.3	23	11	25 32	4 52.6
23	10	13 20 3	— 4 58.3	18	12	13 26 8	— 6 3.3

* Small companion.

† (4).

N 2

Days. Obs.	Mag.	α .		δ .	Days. Obs.	Mag.	α .		δ .
		h. m. s.		° ' "			h. m. s.		° ' "
23	11	13 26 24	—	0 59.6	18	11½	13 30 35	—	6 2.4
18	11½	26 29		6 4.5	16	9	31 2		11 9.8
23	12	26 32		4 59.2	17	10	31 19		12 32.6
18	10	26 35		6 0.7	17	10	31 43		12 28.9
16	10	26 39	11	14.4	18	12	31 43		6 3.0
18	11	26 52		6 5.9	16	11	32 41		11 22.5
16	12	26 54	11	26.3	17	11	32 42		12 46.5
23	11	27 4		4 58.9	18	10½	32 46		6 3.1
16	10½	27 5	11	11.7	18	10	32 50		6 0.4
23	11	27 7		4 59.6	17	10½	33 2		12 41.6*
23	10½	27 8	5	5.6	18	9½	33 4		6 1.1
17	11	27 10	12	36.5	16	11	33 25		11 11.6
23	10½	27 17	5	0.4	18	11	33 29		5 58.0
17	12	27 31	12	33.8	16	11½	33 45		11 23.9
17	12	27 32	12	36.4	17	11	33 45		12 41.0
16	11	27 35	11	10.0	17	11	33 55		12 47.7
18	11	27 49	5	48.9	18	11	34 8		5 53.4
23	11	28 15	5	4.9	18	11	34 8		5 56.3
23	11	28 22	5	4.8	17	10½	34 31		12 47.5
18	11½	28 34	5	59.6	16	11	34 54		11 26.9
17	9½	28 35	12	36.4	16	10½	34 59		11 21.3
18	11	28 35	6	3.7	16	10	35 3		11 16.0
23	11½	28 39	4	57.8	17	11½	35 17		12 46.6
18	12½	28 41	6	2.6	17	11	36 6		12 40.4*
23	11	28 43	4	57.8	17	9½	36 7		12 37.5*
17	10	28 48	12	45.5	16	11	36 19		11 6.8
16	11½	29 0	11	30.4	16	10½	36 23		11 6.8
17	10	29 6	12	33.1	16	10½	36 55		11 25.6
17	10	29 16	12	38.3	16	11	37 19		11 27.3
16	10½	29 21	11	30.4	16	10½	37 45		11 24.9
17	12	29 32	12	32.9	16	10½	37 54		11 24.7
16	11½	29 58	11	7.9	17	11	38 6		12 42.7
18	10½	30 3	6	0.9	17	10½	38 17		12 43.9
16	11	30 26	11	9.7	16	10½	38 26		11 22.7
18	9½	13 30 29	—	6 1.9	16	12	13 38 29	—	11 26.6

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	^{° ' "}			^{h. m. s.}	^{° ' "}
17	11½	13 38 32	—12 39.0	17	11	13 45 45	—12 38.2
16	11½	39 14	11 8.0	17	11	46 22	12 38.4†
16	10	39 23	11 22.3	16	11	46 54	11 10.3*
16	11	39 28	11 22.8	16	11½	47 15	11 19.0
17	10	39 31	12 31.6	17	11½	47 17	12 35.3
16	11	39 35	11 7.1	16	10	47 58	11 13.2‡
17	10½	39 43	12 35.6	17	10½	48 11	12 31.3
17	11	39 47	12 32.4	16	10½	48 26	11 21.7
17	10	40 1	12 33.9	16	11	48 35	11 15.9
17	10½	40 4	12 45.7	17	11½	48 41	12 43.1
16	11	40 5	11 17.7	17	11½	48 51	12 33.4
16	11	40 21	11 20.2	17	11½	48 59	12 33.7§
16	11	41 35	11 10.2	16	11½	49 1	11 24.5
17	11½	41 38	12 35.8	17	11½	49 14	12 43.9
17	10½	41 42	12 37.4	17	11	50 5	12 47.8
17	10½	42 24	12 48.2	17	11	50 28	12 37.5
16	11	43 0	11 13.3	16	12½	50 33	11 21.9
17	11½	43 11	12 35.1	17	11	50 34	12 30.4
17	11½	43 16	12 46.1	16	11	50 43	11 28.3
17	11½	43 24	12 45.8	16	11	51 55	11 13.7
16	9½	43 41	11 7.0*	16	10½	51 56	11 17.6
16	11	43 57	11 13.0	16	11	51 56	11 8.0
17	11½	44 0	12 47.0	17	11	52 13	12 46.5
16	11½	44 12	11 12.7	16	11	53 15	11 16.8
17	10	44 19	12 42.8	17	10½	53 18	12 49.4
16	11½	44 25	11 25.1	17	10½	53 38	12 43.9
17	11	44 26	12 47.7	16	11½	53 47	11 13.3
16	10½	44 43	11 27.0	17	11	55 3	12 44.1
17	11	44 53	12 45.0	16	10½	55 10	11 24.0
17	10½	45 5	12 31.0	17	9	55 39	12 33.7
16	10½	45 12	11 12.7	16	12	55 41	11 23.9
16	10½	45 29	11 20.8	17	11	55 50	12 44.6
16	11½	45 39	11 13.0	16	11½	55 52	11 21.0
17	10	45 42	12 33.4	17	11	57 13	12 42.0
16	11	13 45 43	—11 26.1	17	10	13 57 52	—12 32.6

* L. of double.

† (4).

‡ A 12th S.

§ An 11½ N. p.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	^{° ' "}			^{h. m. s.}	^{° ' "}
16	10½	13 58 4	—11 18.1*	17	12½	14 7 13	—12 37.9
16	11½	58 16	11 25.5	16	11	7 24	11 15.1
16	10	58 37	11 9.6	17	11½	7 27	12 31.0
17	11	59 9	12 47.0	16	11½	7 31	11 13.9
17	10	59 35	12 45.6	16	11	7 39	11 22.5
16	9½	59 48	11 20.1*	17	10	8 36	12 36.2
17	11½	59 49	12 33.6	16	11	8 40	11 27.3
17	10½	59 52	12 33.2	16	10	8 42	11 13.9
17	11	13 59 57	12 33.1	16	11½	8 49	11 14.5
17	9	14 0 4	12 39.4	17	10½	8 52	12 47.1
17	11½	0 10	12 31.6	16	10	8 54	11 11.2
16	10½	0 39	11 20.5*	17	12	9 20	12 51.0
17	10	0 45	12 33.2	16	11	9 56	11 25.4
17	10	0 50	12 33.2	16	11½	9 57	11 23.6
16	10½	1 2	11 12.4	16	10½	10 5	11 26.5
16	12	1 36	11 20.9	16	11½	10 12	11 26.3
17	11	1 38	12 35.0	17	11	10 43	12 45.9
17	10	1 46	12 32.9	16	10	10 58	11 20.3
17	10	1 56	12 35.5	16	11½	11 3	11 13.8
17	11	2 9	12 33.2	17	11½	11 4	12 42.9
17	11	2 17	12 35.4	17	10	11 5	12 44.2
16	11½	2 55	11 10.8	17	11	11 15	12 49.3
16	11	3 10	11 11.7	16	10	11 24	11 22.8
16	10	3 30	11 21.1	17	10½	12 26	12 46.1
17	11½	4 4	12 48.7	17	11½	12 49	12 30.2
17	12	4 34	12 45.0	16	11½	13 0	11 15.0
17	11	4 47	12 44.0	17	10	13 31	12 48.1
17	10½	4 59	12 35.1	16	11½	13 32	11 21.6
16	11	5 0	11 22.4	16	10	13 37	11 15.1
17	10½	5 14	12 44.1	17	11	14 53	12 37.4
16	11½	5 28	11 11.2	17	11½	14 59	12 47.7†
16	11½	5 35	11 11.6	17	10½	15 0	12 34.9
17	10	6 5	12 40.8	16	11½	15 24	11 28.0
16	12	6 25	11 25.4	17	11	15 51	12 30.3
16	11½	14 7 5	—11 26.3	17	11	14 16 4	—12 34.1

*(4).

† S. p. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
16	10	14 16 15	—11 9.9	16	10	14 24 22	—11 7.3
16	10	16 23	11 27.3	16	10	24 32	11 10.9
16	11	16 25	11 15.3	17	9½	24 35	12 48.4
16	10½	16 46	11 28.1	17	10	24 45	12 41.5
16	11½	17 19	11 7.9	17	11½	24 51	12 43.7
17	10	17 20	12 36.9	16	11½	26 15	11 22.0
17	12	17 29	12 36.7	17	12	26 34	12 44.7
17	12	17 30	12 47.4	16	9	26 58	11 22.5
17	11	17 47	12 38.1	17	11½	27 9	12 49.6
16	9	18 2	11 21.5	16	11½	27 25	11 12.4
16	10½	18 8	11 14.3	17	9½	27 28	12 47.0
16	12	18 20	11 22.3	17	10	27 39	12 30.7
17	11	18 36	12 47.6	17	10	27 41	12 39.4
16	10	18 49	11 28.4	16	11½	28 0	11 25.4
17	11	18 49	12 47.7	16	11	28 19	11 11.9
17	10	19 11	12 46.5	17	11	28 25	12 44.8
16	11½	19 23	11 11.3	16	11	28 36	11 13.8
16	10	19 30	11 12.5	16	11	28 46	11 11.2
17	11	19 52	12 43.1	16	11	28 50	11 17.8
16	10	19 59	11 13.2	17	9	28 58	12 30.1
17	11	20 3	12 42.9	16	9	29 23	11 23.9
16	11½	20 20	11 11.5	17	9½	29 51	12 36.6
16	11½	20 32	11 15.6	16	11½	30 23	11 12.3
17	11	20 32	12 43.4	17	12½	30 24	12 34.4
17	11½	21 19	12 44.1	16	11½	30 36	11 13.5
17	11½	21 25	12 49.1	17	11	30 41	12 34.9
16	10	21 38	11 17.7*	16	11½	30 42	11 11.3
17	10	21 56	12 31.2	16	10	30 50	11 26.5
16	10	22 12	11 19.7	17	11	30 54	12 34.9
16	10	22 18	11 13.6	17	11½	31 13	12 36.3
16	11	22 37	11 20.5	16	9½	31 41	11 28.7
17	10	22 41	12 44.3	17	11	32 1	12 31.7
17	11	22 48	12 41.9	16	11	32 11	11 9.9
17	11½	23 21	12 43.6	16	9	32 46	11 9.9
16	10	14 24 16	—11 16.0	17	11½	14 32 48	—12 39.3

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] ['] ^{''}			^{h.} ^{m.} ^{s.}	[°] ['] ^{''}
17	11½	14 32 52	—12 31.7	17	10	14 49 38	—12 46.4
17	11½	32 54	12 35.1	17	11	49 54	12 46.3
17	11½	33 4	12 38.8	17	11	49 54	12 42.4
17	12	33 13	12 38.6	17	11	51 0	12 46.8
17	11	34 45	12 37.7*	17	11	51 13	12 41.0
17	10	35 4	12 44.6	17	11½	51 19	12 48.3
17	10	35 29	12 43.0	17	11	51 35	12 41.1
17	11½	36 23	12 37.2	17	11	51 46	12 45.8
17	9	36 29	12 31.6	17	9½	53 20	12 44.2
17	10½	36 32	12 35.0	17	10	53 50	12 30.8
17	10½	36 47	12 34.6	17	11½	53 53	12 34.6
17	11	37 33	12 33.1	17	11½	54 34	12 37.8
17	12	37 48	12 38.0	17	12	54 40	12 46.8
17	11	37 58	12 43.1†	17	12	54 46	12 46.0
17	10	38 33	12 35.2	17	11	55 36	12 29.7
17	11	38 45	12 38.0	17	11	56 35	12 43.6
17	11½	38 49	12 41.1	17	11	56 46	12 41.9
17	10	39 57	12 48.3	17	11½	56 59	12 30.5
17	11	40 22	12 34.8	17	12	57 3	12 32.7
17	11	40 46	12 36.7	17	10	57 56	12 33.6
17	11	41 32	12 47.2	17	12	58 7	12 32.6
17	11	41 42	12 47.9	16	11½	58 17	20 15.1
17	10	42 34	12 33.0	16	11	58 24	20 15.1
17	11	43 6	12 34.7	17	10	58 37	12 49.6
17	11½	43 25	12 44.5	17	10	58 40	12 34.4
17	11	44 3	12 44.1	16	11	58 49	20 13.6
17	11	44 47	12 32.3	16	11½	58 55	20 17.1
17	9½	45 13	12 50.4	17	11	59 23	12 31.0
17	11½	45 42	12 32.5	16	10	14 59 25	20 16.1
17	10½	46 8	12 37.8	17	11	15 0 6	12 36.7
17	11	46 16	12 36.2	16	11	0 20	20 24.6
17	10½	47 9	12 47.7	17	10	0 23	12 41.2†
17	10½	47 41	12 38.8†	17	9	0 36	12 37.4
17	10½	47 57	12 38.8	16	11½	0 37	20 14.7
17	10½	14 49 30	—12 42.0	16	10½	15 1 12	—20 13.6

* Double.

† L. of double.

‡ (4).

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.						h. m. s.			
16	II	15 1 16			—20 18.4	16	10½	15 25 15			—20 15.7
16	II	1 43			20 16.4	16	10½	25 40			20 24.1
17	9½	2 7			12 43.8	16	10½	25 40			20 25.6
17	10	2 39			12 38.9	16	10	26 18			20 32.9
16	II	2 50			20 17.6	16	9½	27 25			20 12.1
16	II	3 17			20 27.3	16	11½	27 57			20 13.7
16	II	3 59			20 13.4	16	II	28 0			20 23.1
16	11½	4 32			20 16.1	16	II	28 32			20 15.0
16	II	4 36			20 12.2	16	II	29 18			20 19.8
16	II	4 55			20 22.3	16	II	29 36			20 14.2
16	II	4 56			20 13.3	16	10½	29 59			20 17.6
16	11½	6 26			20 12.9	16	II	31 33			20 15.9
16	10	6 27			20 16.6	16	II	32 40			20 29.7
16	10½	6 58			20 19.1	16	II	32 57			20 21.6 *
16	10	9 8			20 12.4	16	10	32 59			20 11.3
16	II	10 41			20 28.7	16	II	33 23			20 29.2
16	II	11 41			20 28.3	16	9½	34 35			20 14.6
16	10	12 24			20 13.1	16	11½	34 44			20 23.9
16	11½	12 48			20 15.8	16	II	35 1			20 29.6
16	10½	13 16			20 25.9	16	10½	35 46			20 26.6
16	11½	15 25			20 17.2	16	10½	36 13			20 13.7
16	9	15 37			20 11.7	16	10½	37 7			20 15.4
16	11½	15 38			20 13.7	16	11½	37 10			20 27.0
16	10	16 26			20 12.4	16	11½	37 38			20 30.2
16	II	17 28			20 22.6	16	II	38 5			20 18.3
16	11½	17 46			20 25.9	16	II	38 54			20 25.5
16	11½	20 24			20 11.4	16	10½	39 29			20 28.2
16	11½	20 42			20 18.6	16	II	40 55			20 17.4
16	II	21 7			20 27.4	16	10½	40 58			20 12.7
16	II	21 26			20 23.9	16	II	41 4			20 13.8
16	II	22 59			20 15.9	16	II	41 22			20 14.9
16	10½	23 9			20 8.8	16	10	41 50			20 15.3
16	II	23 15			20 12.2	16	II	42 33			20 28.0
16	11½	24 46			20 29.2	16	10½	43 6			20 29.3
16	9½	15 24 52			—20 22.9	16	11½	15 43 36			—20 28.8

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] [']			^{h.} ^{m.} ^{s.}	[°] [']
16	11½	15 43 42	20 25.9	16	11	16 5 12	20 11.9
16	10½	44 28	20 30.0	16	11	6 20	20 26.1
16	10½	44 42	20 13.9	16	11	6 36	20 17.5
16	11½	44 57	20 12.6	16	11	7 44	20 17.9
16	11	45 7	20 11.6	16	11	7 52	20 12.9
16	9½	46 28	20 14.3	16	11	9 18	20 28.4
16	10	47 2	20 30.1	16	11½	9 27	20 25.3
16	11	49 45	20 29.9	16	10	9 31	20 14.4
16	11	50 47	20 15.3	16	11	10 39	20 14.3
16	10	51 17	20 16.3	16	11½	12 1	20 21.8†
16	11	51 19	20 12.2	16	10½	12 25	20 19.6*
16	10½	51 33	20 17.8	16	11	13 32	20 15.0
16	11½	52 37	20 14.1	16	11	13 54	20 14.7
16	11½	52 54	20 16.0	16	11½	15 49	20 18.0
16	11½	53 17	20 17.2	16	11	16 59	20 19.2
16	11	54 29	20 22.5	16	11	19 57	20 20.1
16	11	54 56	20 27.6	16	10	20 2	20 27.9
16	9	56 9	20 29.0*	16	10½	20 26	20 25.7
16	11½	56 15	20 26.3	16	10½	22 54	20 13.9
16	10½	56 41	20 9.5	16	11½	23 52	20 28.6
16	10	56 54	20 7.9	16	11	24 20	20 17.3
16	11	15 59 19	20 30.3	16	10½	24 55	20 12.9
16	11½	16 0 16	20 18.1	16	11½	25 22	20 22.7
16	11	2 22	20 18.4	16	11	25 23	20 27.2
16	11	2 36	20 26.5*	16	11	27 10	20 29.2
16	11	2 43	20 24.3	16	10	27 18	20 23.9
16	11	2 46	20 26.3†	16	11½	28 15	20 14.7
16	11	3 11	20 27.6	16	11	29 17	20 25.9
16	10½	4 33	20 18.3	16	11½	29 31	20 16.6
16	11	4 48	20 20.8	16	11	16 29 44	20 26.0
16	11½	16 4 55	20 16.4				

* L. of double.

† Double.

‡ (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

422 STARS NEAR THE ECLIPTIC,

OBSERVED IN MAY, 1855, AT MARKREE.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.			° ' "			h. m. s.			° ' "
8	11	13 59 0			—15 37.0	10	12	14 15 45			—13 3.2
8	11½	59 1			15 35.5	10	11	15 55			12 49.9
8	11½	13 59 9			15 44.9	8	9	16 16			15 26.5†
8	10½	14 0 32			15 48.9	15	11	16 34			12 0.4
8	9½	0 44			15 47.9	15	11	16 45			12 2.7
8	10½	1 24			15 29.7	15	11½	16 54			11 49.9
8	11	1 27			15 35.5	10	12	17 7			12 50.4
8	10	1 42			15 46.3	8	10½	17 17			15 35.0
8	11	1 55			15 36.5	8	10½	17 19			15 43.9
8	10	4 2			15 47.4	15	9½	17 28			12 6.9
8	12	4 4			15 45.6	15	10½	18 14			11 59.1
8	9½	5 13			15 39.2	10	11	18 15			12 44.6
8	10½	5 18			15 40.3	10	10½	18 28			12 58.4
8	11	5 30			15 36.0	15	10½	18 28			11 44.9
8	11	5 49			15 45.6	15	11	18 34			11 44.2
8	11½	7 21			15 45.0	8	10	19 1			15 51.2
8	11	8 14			15 31.9	15	11	19 7			12 5.9†
8	11½	9 12			15 34.3	15	12	19 27			12 4.8†
8	11½	9 26			15 41.8	10	10½	19 38			13 5.0
8	11½	9 30			15 41.5	15	11½	19 51			11 48.9
8	11	9 38			15 45.3	10	10½	19 54			12 58.5
8	10	10 52			15 33.3	8	9	20 15			15 37.8
8	11	11 8			15 30.7	8	11½	20 16			15 41.3:
8	11	11 17			15 45.0	8	11	20 22			15 42.0
8	11½	12 56			15 32.6	10	11	20 26			12 58.6
8	11	13 22			15 33.8	8	11	20 29			15 43.6
10	11½	13 27			12 51.0	15	12	20 30			11 49.5
10	11½	13 49			12 55.4	8	12	20 36			15 43.9
15	12	14 48			12 2.4*	10	11	20 36			12 48.5
10	11½	14 15 3			—13 5.2	10	10	14 20 43			—12 55.4

* Double.

† N. of double.

‡ L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
10	11½	14 21 3	—12 59.5	15	10½	14 28 26	—12 7.0
15	10	21 24	11 59.9	10	11½	28 36	12 53.1
15	10	21 35	11 58.0	8	11	28 59	15 37.6
15	11	21 37	12 1.0	10	11	29 0	13 5.1
15	11½	21 41	12 0.0	8	11	29 3	15 42.9
15	12½	22 9	11 55.0	15	11	29 5	11 53.2
8	11½	22 43	15 30.3	8	11	29 17	15 42.3
8	11	22 45	15 39.7	10	11	29 33	12 59.0
10	10	23 16	13 0.3	15	11	29 33	11 53.4
8.	11	23 29	15 27.1	15	11	29 45	12 3.7
10	10	23 41	12 56.0	10	12	30 30	12 58.9
15	8½	23 50	12 3.4	8	11½	30 31	15 35.7
15	12	24 7	12 1.8	8	11	30 45	15 37.1*
15	12½	24 7	12 4.5	10	11	30 47	12 55.0
8	10	24 34	15 39.4	8	11	30 56	15 42.0
15	10½	24 34	12 6.2	15	11	31 0	11 58.3
15	11½	25 22	11 49.5	10	10	31 6	13 2.0
10	9½	25 27	12 52.5	10	11½	31 26	13 1.2
8	12	25 31	15 42.5	15	9	31 51	11 55.7
10	11½	25 44	13 3.1	15	11½	32 2	11 46.2
15	11½	25 49	12 0.8	10	11	32 11	12 49.8
15	11	26 0	11 52.3	8	11½	32 29	15 29.0
8	11	26 1	15 46.0	15	11	32 35	11 51.1
15	11	26 12	11 46.2	15	11½	32 45	11 50.8
15	11	26 13	11 52.8	10	10½	32 53	13 5.2
10	11	26 19	12 45.5	10	11½	33 2	12 59.9
8	11	26 53	15 30.3	10	11	33 3	13 4.8
8	10½	26 53	15 47.6	15	11½	33 15	12 2.6
10	12	26 55	12 48.6	10	11	33 37	12 56.6
8	11	27 0	15 41.3	10	11	33 41	13 0.2
15	11½	27 23	12 6.3	10	11	34 7	12 56.6
10	11	27 26	13 6.9	8	11	34 9	15 33.5
15	11	27 33	12 1.1	15	11½	34 17	12 3.7
8	11½	28 5	15 45.4	15	10	34 34	11 57.3*
8	10½	14 28 25	—15 46.6	15	11½	14 34 51	—12 0.5

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
10	11 $\frac{1}{2}$	14 34 57	—12 51.8	15	11 $\frac{1}{2}$	14 42 29	—11 53.3
15	12	35 5	11 59.0	15	12	42 46	12 1.9
15	10 $\frac{1}{2}$	35 20	12 3.1	15	12	42 48	12 4.4
10	11	35 23	12 50.4	10	10 $\frac{1}{2}$	42 50	12 51.6†
10	11 $\frac{1}{2}$	35 48	12 51.8	15	12	42 55	12 1.4
10	11 $\frac{1}{2}$	36 9	13 1.3	10	11	42 56	13 5.3
15	11	36 45	11 54.2	15	11 $\frac{1}{2}$	43 53	11 59.4
15	11	36 51	11 55.0	15	11	43 55	12 2.0
15	11	36 58	12 2.1	15	11	44 9	11 49.5
10	12	37 3	13 3.6	10	11 $\frac{1}{2}$	44 26	12 52.6
10	9	37 8	12 59.1*	10	11 $\frac{1}{2}$	44 43	12 53.2
10	12	37 13	13 4.4	10	12	44 44	12 51.8
15	11 $\frac{1}{2}$	37 21	12 3.0	10	12	44 46	12 55.1
10	9 $\frac{1}{2}$	37 59	13 5.9	15	11	45 6	11 47.1
15	11	38 5	12 1.2	15	12	45 14	11 49.5
15	11	38 6	12 2.7	15	11	45 42	11 48.6
15	11 $\frac{1}{2}$	38 15	12 5.4	15	10 $\frac{1}{2}$	46 12	11 51.5
10	12	38 41	13 1.6	15	12 $\frac{1}{2}$	46 41	11 50.8
10	12	38 51	13 6.5	10	11	46 44	12 49.0
10	11 $\frac{1}{2}$	39 5	13 5.4	15	11	46 55	11 50.8†
15	10 $\frac{1}{2}$	39 18	11 59.8	15	9 $\frac{1}{2}$	47 31	12 2.0
10	11 $\frac{1}{2}$	39 36	12 50.1	15	11	47 40	11 48.1
15	11 $\frac{1}{2}$	39 39	11 53.4	15	11	47 54	12 3.3
15	9 $\frac{1}{2}$	39 43	11 55.5*	10	11 $\frac{1}{2}$	48 2	12 50.2
10	11	39 49	12 40.5	15	10 $\frac{1}{2}$	48 15	11 48.1
15	11	39 49	11 53.1	10	11 $\frac{1}{2}$	48 16	13 4.3
15	11 $\frac{1}{2}$	40 23	11 52.2	10	11 $\frac{1}{2}$	48 29	13 2.9
10	11	40 37	13 2.1	10	10 $\frac{1}{2}$	49 49	12 59.6
10	12	40 58	13 0.2	10	11 $\frac{1}{2}$	49 55	13 3.7
10	11	40 58	13 4.8	15	10 $\frac{1}{2}$	49 59	11 54.5
10	10	41 13	13 1.5	15	11	50 22	11 51.6
15	11	41 22	12 4.3	10	10 $\frac{1}{2}$	50 24	13 6.4
15	11	41 25	12 5.1	15	10 $\frac{1}{2}$	50 26	11 55.8
15	10 $\frac{1}{2}$	41 53	11 47.9	10	10 $\frac{1}{2}$	50 39	12 59.2
15	11 $\frac{1}{2}$	14 42 12	—11 53.1	15	11	14 50 51	—11 55.6*

(4).

† Close double.

‡ Small companion.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
10	10½	14 50 57	—12 50.4	15	12	14 58 9	—11 49.7
15	11½	51 8	12 2.8	15	11½	58 49	12 5.4
15	11½	51 16	11 58.8	15	11	59 4	12 0.6
10	10½	51 23	13 0.7	10	10	59 7	12 59.3
10	10	51 34	12 48.7	10	11	59 27	13 3.1
10	10½	52 4	13 0.5	15	11	59 46	12 6.3
15	10	52 22	11 50.9	10	11	14 59 52	13 2.1
15	12	52 30	11 48.1	15	11	15 0 8	11 48.3
10	10	52 34	12 54.8	15	11	0 12	11 54.0
15	12	52 47	11 49.4	15	11	0 23	11 49.3
15	11½	53 14	12 1.5	10	10½	0 41	13 6.3
15	9½	53 16	12 4.5	10	10½	0 42	13 0.6
10	12	53 21	12 56.1	15	11	0 55	11 48.4
10	11	53 24	13 4.9	15	10½	1 14	11 44.5
15	9½	53 31	11 50.6	10	9½	1 24	13 2.7†
10	11	53 55	12 49.7	15	11	1 45	12 0.2
15	11	54 19	12 3.4	10	11	1 50	12 52.5
15	10	54 24	11 48.6	15	10½	2 1	11 52.4†
15	11	54 46	12 6.1	15	10	2 4	12 5.3
10	11½	54 51	12 50.9	15	12½	2 11	11 51.7
15	12	55 1	12 2.5	15	11½	2 27	11 58.8
10	11½	55 23	12 58.7	15	11	2 33	11 58.6
10	12	55 32	13 1.0	15	10½	2 42	11 58.6
10	12	55 33	13 2.8	10	11	2 58	12 54.5
15	11	55 34	11 59.9	10	11	3 3	12 53.3
10	12	55 48	13 1.0	10	10	3 26	13 2.4
15	11	56 17	11 47.3	15	10	3 27	11 55.0
15	10	56 24	11 54.3	10	10½	3 29	13 0.2
15	10	56 26	11 55.8*	15	11	21 51	21 36.5
15	11½	56 43	11 57.7	15	12	23 51	21 32.1
10	11	56 47	12 51.8	15	11½	25 26	21 32.6
10	12½	57 51	12 50.1	15	11	26 15	21 33.7
10	12	57 52	12 50.8	15	11	26 18	21 34.7
15	11	58 2	11 52.4	15	10	26 27	21 38.2
10	11	14 58 3	—12 55.8*	15	10½	15 27 56	—21 42.4

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
15	10 $\frac{1}{2}$	h. m. s. 15 27 59	—21 32.0	15	10 $\frac{1}{2}$	h. m. s. 15 49 24	—21 30.5
15	10 $\frac{1}{2}$	28 18	21 42.3	15	10 $\frac{1}{2}$	49 56	21 41.2
15	11	29 30	21 41.9	15	10 $\frac{1}{2}$	49 58	21 27.2
15	12	30 35	21 46.1	15	10 $\frac{1}{2}$	50 26	21 34.0
15	11 $\frac{1}{2}$	32 14	21 32.7	15	11	51 35	21 35.9
15	11	32 45	21 34.1	15	11	51 51	21 34.6
15	12	34 59	21 30.6	15	11	52 53	21 28.3
15	11	36 19	21 36.6	15	10 $\frac{1}{2}$	53 30	21 45.0
15	11 $\frac{1}{2}$	36 26	21 35.2	15	10	53 45	21 39.2::
15	11 $\frac{1}{2}$	36 40	21 43.4	15	11 $\frac{1}{2}$	54 18	21 45.7
15	11	37 7	21 44.5	15	11	54 25	21 40.1
15	11	37 45	21 28.5	15	11	54 29	21 44.6
15	11	38 50	21 37.1	15	11 $\frac{1}{2}$	55 40	21 32.4
15	11	38 52	21 35.2	15	12 $\frac{1}{2}$	56 5	21 33.5
15	11	38 53	21 34.3	15	11 $\frac{1}{2}$	56 20	21 43.9
15	10	39 34	21 42.0	15	11 $\frac{1}{2}$	57 33	21 43.4
15	9 $\frac{1}{2}$	40 20	21 50.1	15	11	57 45	21 41.7
15	11	41 4	21 31.0	15	10 $\frac{1}{2}$	57 45	21 44.5
15	11 $\frac{1}{2}$	41 25	21 30.8	15	11 $\frac{1}{2}$	58 34	21 28.7
15	11 $\frac{1}{2}$	41 45	21 31.8	15	11 $\frac{1}{2}$	58 43	21 29.3
15	10	42 13	21 28.1	15	11	15 59 29	21 47.7
15	10	43 14	21 35.9	15	11 $\frac{1}{2}$	16 0 5	21 44.9
15	10 $\frac{1}{2}$	43 43	21 34.3	15	11	0 14	21 35.4
15	11	43 55	21 38.9	15	12	1 31	21 41.6
15	10 $\frac{1}{2}$	44 3	21 31.6	15	10	2 40	21 33.2
15	9	44 34	21 31.0	15	12	2 50	21 33.3
15	11 $\frac{1}{2}$	44 58	21 39.6	15	11	3 54	21 50.0
15	11	45 12	21 47.4	15	9 $\frac{1}{2}$	4 32	21 34.1
15	11	45 28	21 39.1	15	9 $\frac{1}{2}$	4 43	21 31.7
15	11 $\frac{1}{2}$	46 45	21 31.1	15	10	5 10	21 42.0
15	11	47 37	21 35.8	15	11	5 41	21 43.5
15	12	47 42	21 45.7	15	11	6 18	21 44.2
15	9	47 51	21 35.0	15	10 $\frac{1}{2}$	6 55	21 33.6
15	9	48 2	21 46.6	15	11 $\frac{1}{2}$	7 3	21 49.3
15	12 $\frac{1}{2}$	15 49 18	—21 30.9	15	10 $\frac{1}{2}$	16 7 6	—21 33.9

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$ ' "			h. m. s.	$^{\circ}$ ' "
15	11 $\frac{1}{2}$	16 7 10	21 42.9	15	11	16 32 41	21 36.2
15	11 $\frac{1}{2}$	7 51	21 28.7	15	11 $\frac{1}{2}$	32 51	21 26.4
15	11 $\frac{1}{2}$	8 5	21 29.9	15	11 $\frac{1}{2}$	33 20	21 32.5
15	11 $\frac{1}{2}$	8 12	21 46.0	15	10	34 4	21 28.7
15	10 $\frac{1}{2}$	9 8	21 47.1	15	11 $\frac{1}{2}$	35 29	21 39.4
15	10 $\frac{1}{2}$	9 45	21 25.7	15	11	36 50	21 45.2
15	11	10 31	21 31.0*	15	11	36 53	21 45.3
15	11	10 39	21 33.4	15	11 $\frac{1}{2}$	38 10	21 29.3
15	11 $\frac{1}{2}$	10 48	21 38.7	15	10 $\frac{1}{2}$	39 21	21 50.8
15	11	12 56	21 34.9	15	11 $\frac{1}{2}$	42 22	21 32.9
15	11 $\frac{1}{2}$	13 7	21 36.1	15	10 $\frac{1}{2}$	42 46	21 32.8
15	11	14 34	21 31.9	15	12	43 9	21 31.0
15	12	14 35	21 33.0	15	10 $\frac{1}{2}$	43 43	21 30.1
15	11	15 8	21 29.4	15	10 $\frac{1}{2}$	43 46	21 28.3
15	11 $\frac{1}{2}$	16 25	21 34.3	15	10 $\frac{1}{2}$	44 35	21 36.7
15	12	16 28	21 46.9	15	11 $\frac{1}{2}$	47 10	21 43.9
15	11 $\frac{1}{2}$	16 35	21 40.8	15	10	47 55	21 31.8
15	10 $\frac{1}{2}$	18 14	21 49.8	15	11 $\frac{1}{2}$	48 31	21 39.1
15	12 $\frac{1}{2}$	19 3	21 31.4	15	12	50 18	21 42.9
15	11	19 44	21 45.0	15	11	50 35	21 44.5
15	11	19 47	21 25.7	15	11	51 28	21 28.7
15	11	19 52	21 36.6	15	11	51 35	21 29.2
15	10 $\frac{1}{2}$	19 55	21 28.4	15	11	52 36	21 36.0
15	11	20 37	21 39.0	15	11	52 40	21 41.9
15	11	20 55	21 31.9	15	11	52 41	21 40.4
15	11	20 59	21 29.5	15	11	53 29	21 46.6
15	11	21 15	21 44.1	15	11 $\frac{1}{2}$	54 36	21 42.8
15	11	22 29	21 29.4	15	11	54 47	21 45.6
15	11 $\frac{1}{2}$	24 59	21 29.7	15	10 $\frac{1}{2}$	55 45	21 33.3
15	11	25 33	21 50.1	15	11	57 2	21 42.4
15	11	28 10	21 47.6	15	11	57 10	21 39.9
15	11 $\frac{1}{2}$	30 20	21 33.5	15	11	57 40	21 33.6
15	9	30 56	21 41.4	15	11	58 27	21 33.2
15	10	31 27	21 37.1	15	11	16 58 31	21 30.4
15	11	16 31 42	21 43.0	15	11	17 0 7	21 31.8

* L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
15	11	17 0 59	—21 36.5	15	11½	17 9 43	—21 50.3
15	11	1 25	21 46.5	15	11	9 46	21 43.3
15	11	2 56	21 41.6	15	11	10 50	21 47.3
15	11	5 45	21 48.7	15	11	12 15	21 37.7*
15	12	7 5	21 42.8	15	11½	16 44	21 29.2
15	11	17 7 26	—21 34.3	15	11½	17 18 27	—21 44.5

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

58 STARS NEAR THE ECLIPTIC,

OBSERVED IN JUNE, 1855, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
4	12	16 26 41	—20 13.9	4	12	16 37 49	—20 13.4
4	11½	30 9	20 16.0	4	11	38 36	20 20.9
4	11½	31 24	20 14.6	4	10	39 14	20 20.5
4	11½	31 54	20 23.3	4	11	41 0	20 22.6
4	11	32 44	20 26.5	4	10½	41 22	20 23.0
4	11½	33 9	20 25.4	4	12	41 53	20 24.7
4	10½	33 27	20 10.9	4	8½	42 16	20 21.8*
4	11½	34 1	20 11.3	4	10½	43 25	20 33.0
4	11	34 39	20 14.6	4	11	45 11	20 20.7
4	11	35 15	20 28.4	4	10½	45 56	20 22.8
4	11½	35 51	20 12.5	4	11	46 8	20 16.4
4	11½	36 1	20 15.7	4	11	46 27	20 27.2
4	11	36 22	20 23.5	4	11½	47 4	20 26.9
4	11½	36 25	20 27.6	4	11	47 13	20 22.0
4	11	16 36 53	—20 12.4	4	10½	16 47 21	—20 11.2

* (4).

N

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
4	10	16 48 52	-20 23.1	4	10½	16 58 42	-20 28.1
4	11½	48 59	20 12.7	4	11	59 9	20 12.9
4	11½	49 16	20 15.8	4	10½	59 12	20 10.9
4	11	49 49	20 22.6	4	11½	59 44	20 28.2
4	11	50 31	20 28.6	4	10½	16 59 50	20 25.6
4	11	51 9	20 24.3	4	10½	17 0 15	20 16.1
4	10½	51 55	20 21.7	4	10½	0 31	20 15.4
4	10½	52 4	20 12.5	4	11	1 55	20 25.4
4	11½	54 46	20 14.0	4	11½	2 57	20 13.1
4	11	56 38	20 31.6	4	11	3 40	20 23.0
4	11	57 16	20 23.4	4	11	3 46	20 28.0
4	11	57 48	20 12.4	4	11	5 6	20 16.3
4	11	57 50	20 20.9	4	11	5 27	20 26.4
4	10½	16 58 7	-20 13.0	4	11	17 7 9	-20 20.9

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

127 STARS NEAR THE ECLIPTIC,

OBSERVED IN JULY, 1855, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
4	9½	17 16 37	-21 29.3	4	10½	17 33 7	-21 50.8
4	11	18 6	21 39.2	4	11	35 41	21 48.9
4	10½	21 35	21 49.9	4	11½	38 11	21 31.7
4	11	22 31	21 45.5	4	11½	38 47	21 50.1
4	11½	24 53	21 37.2	4	11	41 49	21 36.2
4	11	26 7	21 45.6	4	11½	42 52	21 48.1
4	10½	26 49	21 39.5	4	10½	43 26	21 40.7
4	10½	28 17	21 36.7	4	11	43 43	21 49.0
4	11½	28 20	21 36.1	4	10	44 29	21 43.7
4	11	17 30 47	-21 32.8*	4	11½	17 44 53	-21 36.0

* An 11½ N. p.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
4	II	17 45 54	—21 49.8	4	II	18 3 3	—21 42.9
4	II	46 0	21 41.3	4	II	3 9	21 44.4
4	10½	46 15	21 47.2	4	II	3 21	21 42.9
4	10½	47 20	21 47.0	4	11½	3 36	21 47.6
4	11½	47 37	21 45.8	4	II	3 46	21 46.0
4	II	47 39	21 44.3	4	IO	4 14	21 45.6
4	II	47 39	21 35.6	4	10½	5 40	21 49.6
4	10½	48 52	21 40.3	4	10½	5 44	21 40.1
4	II	49 29	21 49.5	4	II	6 57	21 34.1
4	IO	49 45	21 45.6	4	II	7 13	21 46.9†
4	10½	50 11	21 47.1	4	II	7 31	21 48.2
4	IO	51 7	21 43.0	4	11½	8 37	21 46.9
4	II	51 14	21 33.4	4	II	9 20	21 45.8‡
4	II	51 40	21 39.2	4	II	9 23	21 48.6
4	IO	53 10	21 45.3	4	11½	9 36	21 46.8
4	II	53 29	21 46.5	4	II	10 41	21 37.8
4	II	53 35	21 44.2	4	IO	10 51	21 47.3
4	IO	54 49	21 50.0	4	IO	10 52	21 39.4
4	10½	55 0	21 50.2	4	IO	11 10	21 33.5
4	II	55 57	21 45.8	4	IO	12 58	21 46.5§
4	II	56 13	21 47.5	4	II	13 7	21 46.4
4	II	56 25	21 47.5	4	IO	13 45	21 38.7
4	II	56 32	21 46.9	4	11½	14 15	21 49.1 :
4	10½	57 20	21 40.4	4	11½	14 31	21 50.7
4	II	57 28	21 40.1	4	11½	15 52	21 33.0 :
4	9	58 41	21 52.3	4	II	15 55	21 40.0
4	IO	59 4	21 31.8	4	II	16 4	21 33.7
4	11½	59 20	21 37.6	4	II	16 15	21 38.0
4	11½	59 25	21 34.5*	4	II	16 49	21 47.8
4	11½	17 59 41	21 34.6	4	10½	17 18	21 32.8
4	IO	18 0 25	21 31.6	4	11½	18 10	21 35.8
4	9½	0 32	21 35.3	4	10½	18 20	21 44.6
4	10½	0 35	21 34.5	4	10½	18 42	21 45.1
4	II	1 42	21 38.9	4	10½	18 42	21 48.7
4	11½	18 1 53	—21 35.7	4	IO	18 21 58	—21 37.8

* p. of double.

† Two 11th Mags. N. p.

‡ Double.

§ Close double.

N 2

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
4	11½	^{h. m. s.} 18 22 49	[°] —21 50.3	4	11	^{h. m. s.} 18 34 57	[°] —21 38.9
4	11	23 38	21 49.1	4	11	35 22	21 46.4
4	11	24 31	21 35.4	4	10½	37 56	21 40.9
4	11½	24 40	21 35.9	4	11	39 39	21 35.6
4	11	25 9	21 33.0	4	11	39 44	21 44.4
4	10½	25 21	21 39.6	4	11	39 55	21 36.6
4	11½	25 50	21 34.0	4	11½	41 23	21 46.2
4	10½	27 33	21 48.9	4	10½	42 28	21 53.1
4	12	27 46	21 48.0	4	10	42 33	21 37.4
4	10	28 2	21 46.1	4	10½	42 44	21 51.3
4	9½	28 29	21 36.7	4	10½	43 34	21 35.9
4	10½	29 26	21 33.6	4	10½	43 50	21 35.2
4	12	30 19	21 45.0	4	11	45 40	21 47.2
4	11½	31 25	21 35.7	4	11	46 44	21 40.2
4	11½	31 29	21 35.6	4	10½	46 45	21 38.6
4	12	33 9	21 37.8	4	11	47 9	21 37.7
4	11	33 9	21 33.3	4	10½	47 19	21 39.7
4	11	34 15	21 36.0	4	10	18 50 26	—21 34.2
4	11	18 34 25	—21 38.4				

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

61 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1855, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
17	10½	^{h. m. s.} 21 17 23	[°] —17 12.1	17	11	^{h. m. s.} 21 20 59	[°] —17 27.6
17	11	17 56	17 17.8	17	11	21 20	17 19.1
17	11	18 17	17 28.7	17	11½	23 27	17 12.7
17	10½	20 6	17 20.2	17	10½	23 30	17 23.8
17	11½	21 20 42	—17 27.1	17	11½	21 23 47	—17 18.7

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	°			h. m. s.	°
17	11	21 25 7	-17 16.4	17	10	21 46 33	-15 17.4
17	10½	26 57	17 27.4	17	11	46 51	15 19.9
17	10½	28 50	17 14.3	17	11	47 31	15 15.0
17	11	30 3	17 18.5	17	10½	52 7	15 30.9
17	11½	30 29	17 30.7	17	10½	52 12	15 21.9
17	10½	30 42	17 22.8	17	10½	52 55	15 21.9
17	11½	31 3	17 15.1	17	10	54 38	15 33.5
17	10½	31 27	17 14.2	17	11	56 59	15 23.1
17	12	34 8	17 19.4	17	11½	57 22	15 17.3
17	10	34 17	17 29.1	17	12	58 3	15 19.6
17	10	34 19	17 14.3	17	10	58 33	15 27.8
17	10½	34 29	17 29.6	17	12	21 58 44	15 28.1
17	10	34 50	17 19.0	17	11½	22 0 20	15 15.2
17	11½	35 40	17 16.6	17	10½	3 42	15 16.2
17	11	36 14	17 13.6	17	9½	4 50	15 25.0
17	12	37 2	17 13.8	17	11	5 7	15 29.3*
17	10½	37 10	17 16.7	17	11½	5 27	15 23.9†
17	11	38 28	17 25.1	17	10	6 48	15 27.7
17	9	39 13	17 27.2	17	10	8 34	15 29.0
17		39 43	17 28.3:	17	8	8 51	15 24.1
17	11	39 57	17 18.2	17	10½	9 12	15 10.8
17	12	40 27	17 16.0	17	11	9 17	15 23.2
17	12	40 32	17 15.0	17	9	10 1	15 14.7
17	10½	40 41	17 28.5	17	11	10 56	15 27.9
17	10½	41 25	17 17.4	17	9½	22 12 4	-15 31.5
17	10	21 41 26	-17 13.6				

* L. of double.

† (4.)

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

876 STARS NEAR THE ECLIPTIC,

OBSERVED IN OCTOBER, 1855, AT MARKREE.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.				h.	m.	s.	
13	12	21	25	35	-10° 11.1	13	11½	21	37	53	-10° 23.7
13	11		26	2	10 23.7	13	11½		38	5	10 21.7
13	9½		26	12	10 9.8	13	11		38	7	10 23.6
13	10		26	13	10 25.4	13	11½		38	15	10 24.3
13	11½		26	23	10 25.0	13	8½		39	21	10 12.1
13	10		26	38	10 14.3	13	11		39	46	10 14.2
13	12		27	13	10 28.2	13	11		39	56	10 10.3
13	12		27	25	10 25.7	13	11		40	44	10 15.0
13	11		27	53	10 17.6	13	12		41	25	10 11.7
13	10		28	22	10 22.4	13	10½		42	29	10 15.4
13	12		28	55	10 20.3	13	10		42	40	10 11.3
13	10		29	44	10 30.3	13	12		43	23	10 12.4
13	8		29	48	10 16.0	13	10		43	35	10 21.2
13	11		30	4	10 31.1	13	11½		43	51	10 16.2
13	11½		30	36	10 27.6	13	11½		44	25	10 17.0
13	11½		30	54	10 10.4	13	10		44	25	10 13.9
13	10		30	58	10 10.6	13	10		44	41	15 23.2
13	9		31	16	10 10.0	13	11½		45	33	15 13.1
13	10½		32	19	10 20.1	13	11		46	12	10 18.7
13	10½		32	34	10 23.8	13	11½		46	24	10 15.9
13	11½		33	39	10 10.2	13	10		46	54	10 19.0
13	11		34	1	10 14.0	13	12		48	23	10 9.8
13	11		34	12	10 23.8	13	11½		49	0	15 13.3*
13	10½		34	21	10 12.9	13	11		51	29	15 25.2
13	10½		35	11	10 10.5	13	10		51	42	15 29.1
13	10½		35	23	10 18.2	13	11		53	9	15 13.4†
13	10½		36	4	10 28.7	13	11		53	46	15 27.5
13	11		37	0	10 12.0	13	11½		54	16	15 18.4
13	11		37	5	10 27.0	13	10½		55	0	15 26.7
13	11	21	37	9	-10 19.9	13	12	21	56	6	-15 13.8

* f. of double.

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
13	11½	^{h. m. s.} 21 56 26	[°] —15 13.6	8 13	10	^{h. m. s.} 22 56 37	[°] —11 19.4 *
13	11½	57 20	15 21.4	8 13	11	56 50	11 18.4
13	10½	21 59 20	15 24.5	13	11½	57 2	10 28.7
13	11	22 1 7	15 23.5	13	11	57 11	10 24.5
13	11	2 54	15 11.4	8 13	11½	57 20	11 14.5
13	11½	3 2	15 25.0	13	11½	58 7	11 20.2
13	11	4 26	15 22.0	8 13	10	58 13	11 11.1
13	11	5 24	15 21.5	13	11	58 19	11 19.6
8	11	41 1	11 15.1	8	10½	58 28	11 14.1
8	11½	41 38	11 28.3	8	12½	58 46	11 19.7
8	11½	43 3	11 27.4	13	10½	58 58	10 22.8
8	9½	43 38	11 23.4	13	9	59 52	10 22.1
8	10	43 46	11 28.6	13	11½	22 59 59	11 17.4
13	11½	45 50	11 31.0	13	11½	23 0 6	11 22.5
13	11½	45 56	11 26.2	8	12	0 26	11 15.0
8 13	11	46 22	11 19.4 *	8 13	11	0 33	11 15.9
8	11½	46 37	11 21.7 *	13	12½	0 49	10 12.9
8 13	10	47 3	11 18.1	13	10	0 53	11 29.1
13	11	47 50	11 14.8	8 13	10½	1 2	11 18.2
8	12	49 21	11 11.5	8	11	1 8	11 25.9
8	12	50 35	11 12.9	13	10	1 26	10 22.0
13	9	51 8	11 30.9	13	11	1 29	10 13.4
13	12	51 40	10 17.6	13	11	1 36	10 16.4
13	10	52 12	11 34.5	13	10	1 50	11 36.2
8	11½	52 35	11 19.9 †	13	11	2 4	10 22.5
8 13	11	52 49	11 16.7	13	11½	2 7	10 21.8
13	12	53 35	11 15.0	8	11½	2 11	11 8.9
13	12	53 35	11 14.0	8	11½	2 27	11 13.2
13	11	53 45	10 12.6	8	11	2 45	11 14.6
13	11	54 26	11 27.4	8	10	3 1	11 14.0
13	12	54 48	11 14.1	8 13	10	3 15	11 29.4
8 13	11	54 58	11 25.2	13	12½	3 32	11 27.6
8 13	11	55 27	11 16.1	8	11	5 0	11 17.0
8 13	11	55 43	11 22.8	8	12	5 26	11 17.8
13	11	22 56 2	—11 11.7	8	12	23 5 35	—11 27.1

* (4).

† Nebulous.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	°			h.	m.	s.	°
8	10	23	5	47	-11 26.0	8	11½	0	10	19	+ 5 49.6
8	10½		6	3	11 17.6	8	12		10	54	5 50.4
8	11		8	4	11 22.8*	8	12		11	5	5 52.3
8	10		8	6	-11 11.1	8	11		11	6	5 48.9
8	10		55	28	+ 6 7.3	8	11		12	1	6 5.9
8	11½		55	44	5 54.9	8	11		12	13	6 4.7
8	11½		56	9	5 52.2	8	11½		12	32	6 4.2
8	11		56	19	5 56.5	8	10		12	41	6 7.4
8	10½		56	33	5 51.8	8	10		13	5	5 54.3
8	11		58	8	6 8.3	8	10½		13	29	6 2.5
8	10		58	37	6 6.2	8	10½		13	37	6 5.3
8	11		59	35	6 4.5	8	11		13	52	6 1.7
8	11	23	59	37	6 3.4	8	9½		14	11	5 53.3
8	12	0	0	20	5 57.3	8	11		14	39	5 54.8
8	11½		2	7	5 54.0	8	11		14	41	5 50.5
8	11		2	17	6 3.0	16	10		14	56	+ 0 0.8
8	11		2	24	6 6.8	16	11½		15	17	- 0 0.8
8	10		2	47	5 59.7*	16	11		15	41	- 0 6.6
8	10½		2	49	5 54.0	16	12		15	50	+ 0 6.2
8	10½		3	45	5 59.9	8	11		15	53	6 7.5
8	10		3	50	6 1.9	8	12		16	41	6 7.0
8	11		4	1	6 5.2	8	10		17	10	6 4.1
8	11½		4	36	6 6.4	16	12		17	21	0 3.5
8	10½		5	13	6 3.6	16	12		17	24	0 0.9
8	11½		5	31	6 1.3	8	11		17	29	6 4.4
8	11½		5	39	6 4.0	8	10½		17	35	5 52.4
8	11½		5	39	6 5.2	8	11½		17	37	6 5.4
8	10½		6	49	5 49.3	8	10		18	25	6 2.2
8	11		6	58	5 57.6	8	10		18	42	6 8.1
8	10½		8	3	5 57.6	8	11		19	36	5 56.7
8	10½		8	13	5 54.8	8	10½		19	41	5 50.8
8	11		8	39	6 2.3	8	11		19	47	5 51.5
8	10		8	53	6 1.4	16	11½		19	58	0 7.9
8	11		9	28	6 11.1	16	11½		20	17	0 3.6
8	10	0	10	2	+ 6 4.0	8	11½	0	20	27	+ 6 9.6

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] ['] ^{''}			^{h.} ^{m.} ^{s.}	[°] ['] ^{''}
16	9½	0 21 5	— 0 3.7	12	11½	0 27 57	+ 7 11.9
8	11½	21 19	+ 6 7.4	8	10	27 59	6 1.2
8	10	21 30	5 57.6*	12	10½	28 46	7 24.7
8	11½	21 54	5 55.3	8	11	28 49	5 54.3
8	11½	21 54	5 51.9	12	10½	28 56	7 12.3
16	10	22 30	0 0.5*	16	11	28 56	+ 0 0.5
8	9½	22 41	6 6.0	16	9	29 1	— 0 2.7*
8	10	24 0	5 59.3	8	11½	29 19	+ 6 4.8
16	11½	24 3	0 1.5	12	9½	29 28	7 16.7
16	11½	24 10	+ 0 10.8	12	11	29 30	+ 7 10.5
16	10	24 25	— 0 1.6*	16	11½	30 14	— 0 8.0
8	10	24 32	+ 6 5.6	8	10	30 18	+ 5 53.0
16	10	24 50	— 0 7.0	16	11½	30 26	— 0 8.9
8	11½	25 28	+ 5 50.1	8	10½	30 31	+ 5 56.7
16	11	25 33	0 7.0	12	9	30 43	7 27.1
16	11	25 40	0 4.1	12	11	30 44	7 31.7
8	11	25 41	5 50.9	8	10½	30 49	+ 5 54.4
16	9½	25 42	0 1.8	16	9½	30 59	— 0 10.2
8	9	25 51	5 49.1	16	12	31 31	+ 8 51.0
12	11	25 58	+ 7 11.5	12	10	31 33	7 23.0
16	10	26 2	— 0 3.9	12	10½	31 34	7 16.9
16	10½	26 9	+ 0 6.5	12	10	31 46	7 24.2
12	11	26 14	7 26.2	8	10	31 49	5 51.7
12	11	26 16	7 10.0	8	10½	31 58	5 51.3
12	11	26 24	7 24.8	16	11½	32 2	0 3.3
8	10½	26 37	5 53.0	16	11½	32 8	8 52.2
12	9	26 47	7 11.4	16	11½	32 16	9 8.7
16	9	27 13	0 0.3	16	11½	32 18	9 4.3
16	11½	27 20	0 3.9	16	10	32 32	0 11.2
16	11½	27 30	0 6.2	8	9½	32 37	6 7.5
8	11½	27 34	6 8.0	8	11½	32 48	6 8.1
8	10½	27 41	6 7.0	8	10½	32 53	5 55.0
8	11	27 42	6 3.8	16	11½	33 2	9 6.6
8	11½	27 42	6 4.9	16	11	33 13	9 8.7
12	11	0 27 43	+ 7 13.8	12	10½	0 33 14	+ 7 23.7

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
12	10	^{h. m. s.} 0 33 32	[°] + 7 26.7	16	10	^{h. m. s.} 0 40 42	[°] + 9 0.9
8	11	33 40	6 20	8	11	40 56	5 51.7
8	12	33 44	5 52.2	12	11½	40 59	7 11.7
12	11	33 46	7 14.0	12	11½	41 1	7 25.6
16	12	34 6	8 54.2	12	11	41 3	7 29.2
16	11½	34 18	8 51.2	12	10½	41 30	7 12.1
16	11½	34 23	8 53.3	16	10	41 52	8 58.4
12	12	34 47	7 25.6	8	12	41 54	6 3.8
12	11½	34 53	7 11.0	8	12	42 3	6 5.3
12	11½	34 59	7 24.6	12	10½	42 18	7 29.0
12	11½	35 0	7 18.1	12	10	42 43	7 26.3
8	11½	35 27	5 47.3	16	12	43 0	9 5.9
16	11	35 28	9 1.7	8	11	43 5	6 8.0
16	11½	35 37	9 1.7	8	12	43 17	5 58.6
16	11	35 54	8 51.5	12	10½	43 31	7 18.2
16	10	36 31	9 1.5	12	11	43 35	7 12.9
12	11½	36 44	7 16.4	16	11½	43 42	8 50.1
8	10	36 58	5 54.4	12	11	43 50	7 17.2
12	11	37 24	7 15.5	16	11	44 24	8 52.8
12	11½	37 32	7 7.0	8	10	44 44	5 57.0*
16	11	37 54	8 52.0	16	10	44 57	9 1.5
16	12	38 11	9 1.1	12	10	45 2	7 27.8
12	12	38 31	7 21.3	16	11½	45 10	9 1.1
12	11½	38 33	7 25.4	16	10½	45 21	8 54.3
16	12	38 34	9 1.0	16	10½	45 36	8 54.7
12	11½	38 44	7 26.2	12	12	45 48	7 11.4
12	10	38 56	7 11.3	16	10½	45 53	8 56.8
16	9½	39 9	8 59.1	12	11½	45 59	7 14.1
16	10½	39 25	8 54.2	8	12	46 1	5 50.1
12	11½	39 26	7 27.7	8	12	46 8	5 51.9
12	11	39 26	7 18.2	12	10½	46 24	7 10.0
16	10	39 40	9 3.9	8	11½	46 58	5 54.5
16	9½	39 42	9 9.7	12	11	47 8	7 15.1
12	11½	39 57	7 28.4	12	11	47 18	7 26.5
16	10½	0 40 22	+ 8 52.6	8	11	0 47 29	+ 6 5.8

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
16	12	^{h. m. s.} 0 47 29	+ 9 3.0	16	10	^{h. m. s.} 0 53 32	+ 8 53.3
12	11	48 11	7 23.1	16	10½	53 42	8 50.2
16	12	48 11	8 57.5	12	9½	53 58	7 28.3
16	12	48 12	9 1.0	16	11	53 59	8 59.5
12	11½	48 15	7 23.9	12	11	54 18	7 29.7
12	11	48 15	7 26.4	16	12	55 8	9 7.7
16	10½	48 19	9 4.1	16	10½	55 25	9 6.2
16	10½	48 25	9 1.1	8	10½	55 32	5 53.9
8	11½	48 52	6 1.7	16	10½	55 41	8 49.3
16	10	49 1	8 55.8	16	11½	56 17	8 51.9
12	10½	49 5	7 25.2	16	11½	56 36	8 55.5
8	11	49 6	6 4.9	16	10	57 22	8 51.6
16	10	49 6	8 52.5*	16	10	57 35	8 56.4
12	11½	49 13	7 26.1	16	10	57 48	8 51.9
12	11½	49 18	7 26.5	16	11½	57 53	8 55.8
12	11½	49 27	7 22.6	16	9½	58 20	8 55.3
16	10	49 29	8 50.2	12	10½	58 50	7 28.3
12	9½	50 3	7 25.7	12	11½	59 0	7 21.9
16	11½	50 7	8 50.2	16	12	59 8	9 6.2
16	11	50 11	8 52.0	16	12	59 15	9 4.4
16	11½	50 17	8 50.6	12	11½	59 21	7 25.9
16	11½	50 30	8 53.3	16	11	59 31	9 4.1
12	12	50 47	7 28.2	12	10½	59 43	7 22.6
16	11	50 52	8 49.7	16	12	59 44	8 51.9
12	10½	51 6	7 25.7	12	12	0 59 45	7 23.6*
16	11	51 40	9 9.6	12	11	1 0 29	7 15.9
12	12	52 5	7 26.0	16	11½	0 35	9 5.4
12	11½	52 24	7 24.2	12	10½	1 12	7 30.5
16	12	52 26	9 5.2	12	9½	1 13	7 17.9†
16	10	52 47	9 8.2	16	11	1 27	8 53.0
12	11	52 54	7 17.6†	12	11½	1 55	7 14.3
16	11½	52 54	9 1.2	16	11	2 11	8 55.9
12	11	53 21	7 20.5	12	11½	2 35	7 14.6
16	10	53 23	8 50.8	16	9½	3 8	9 9.7
12	8½	0 53 25	+ 7 13.5	12	11½	1 3 13	+ 7 24.4

* Double.

† (4).

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h.	m.	s.	°			h.	m.	s.	°
12	11½	1	3	28	+ 7 27.3	16	11½	1	14	29	+ 8 53.5
12	11		3	31	7 14.7	12	11		14	58	7 26.6
16	10½		3	39	8 52.3	16	11½		15	7	9 3.7
12	11½		4	1	7 17.1	12	12½		15	12	7 24.5
12	10		4	3	7 18.2	12	11½		15	29	7 24.3
16	12		4	17	8 49.8	16	12½		15	31	9 6.4
16	12		4	20	8 49.7	16	9		15	32	9 2.3
16	11		5	5	9 6.4	12	11		16	2	7 12.7†
16	11		5	14	9 1.4	12	12		16	13	7 11.8
16	10		5	18	9 7.1	12	10½		16	27	7 13.9
16	11		5	19	9 3.6	16	10		16	35	8 50.2
12	11½		5	26	7 26.3	16	11		16	44	8 50.6
12	11		6	10	7 29.0	16	11		16	56	8 56.7†
12	11½		6	17	7 23.6	16	11½		17	28	8 54.4
16	10½		6	51	9 4.0	16	9½		17	34	8 55.5
16	11½		7	5	9 2.6	16	10½		17	38	9 2.3
16	11		7	14	8 51.9	12	9½		17	58	7 18.1†
12	9½		7	18	7 14.9	16	10½		18	7	8 55.3
12	10		8	28	7 22.7	16	11		18	28	8 49.1
12	10		9	9	7 21.7	12	10½		18	31	7 15.3
12	11		9	48	7 20.1	12	10		18	42	7 12.6
16	12		10	9	8 52.6	16	11		18	54	8 49.5
16	12		10	21	8 52.3	12	10½		19	13	7 28.5
12	11½		10	26	7 18.8	12	9½		19	24	7 26.6
16	11		10	50	9 4.0	16	11½		19	26	9 6.3
16	11		11	31	9 5.7	16	11½		19	28	9 3.0
16	11		11	35	9 6.2	16	11½		19	41	9 1.3
12	10		12	2	7 28.6	16	11		19	48	9 6.1
12	11		12	8	7 12.6	12	10½		19	58	7 14.0
12	11½		12	13	7 18.5	16	11		20	39	8 53.2
12	11½		12	13	7 16.2	12	12		20	42	7 18.3
16	11½		12	14	9 0.8	12	11		21	25	7 28.3
16	12		12	16	9 4.7*	16	10½		21	34	9 7.1
12	11		13	27	7 10.5	12	9½		21	37	7 13.4
12	10		1	14	12 + 7 24.6	16	11		1	21	38 + 9 2.9

* L. of double.

† Small companion.

‡ (4.)

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
12	9 $\frac{1}{2}$	^{h. m. s.} 1 21 45	[°] + 7 28.8	8	11 $\frac{1}{2}$	^{h. m. s.} 1 29 25	[°] + 14 2.3
16	11	21 57	9 1.5	16	9	29 30	8 49.6
16	10 $\frac{1}{2}$	22 2	9 5.6	12	9 $\frac{1}{2}$	30 11	7 28.6
16	11	22 29	9 3.2	8	10 $\frac{1}{2}$	30 34	13 54.7
12	10	22 36	7 22.7	8	11	30 37	13 50.8
12	9 $\frac{1}{2}$	22 41	7 22.3	16	11	30 41	9 4.8
12	10 $\frac{1}{2}$	23 1	7 10.7	8	10	30 54	13 58.8
16	10 $\frac{1}{2}$	23 14	9 0.2	8	10	31 27	14 2.4
12	10 $\frac{1}{2}$	23 34	7 20.0	12	10 $\frac{1}{2}$	31 29	7 24.4
12	10	23 37	7 30.6	16	11 $\frac{1}{2}$	31 37	9 7.1
16	12	24 47	9 5.1	8	11 $\frac{1}{2}$	31 38	14 3.0
16	12	24 49	9 5.8	12	9 $\frac{1}{2}$	31 47	7 26.2
12	11	25 2	7 23.1	8	11	31 58	13 58.7
16	10	25 3	9 2.9	16	11	32 20	9 2.6
12	11	25 9	7 12.5	16	11	32 21	8 51.5
12	10	26 19	7 27.4	16	11	32 30	8 53.7
8	12	26 29	13 56.3	8	11 $\frac{1}{2}$	33 1	14 2.3
8	11	26 31	13 50.4	12	11	33 6	7 14.9
8	11 $\frac{1}{2}$	26 35	13 56.0	12	11	33 6	7 7.6
8	11	26 40	13 55.4	12	11	33 36	7 11.1
12	11 $\frac{1}{2}$	27 22	7 27.6	12	11	33 38	7 14.9
12	11	27 26	7 25.6	12	10 $\frac{1}{2}$	33 43	7 15.1
16	11	27 30	9 8.3	12	10	34 5	7 13.5
16	11	27 34	8 53.7	8	11	34 23	14 0.9
12	10 $\frac{1}{2}$	27 44	7 21.3	16	11	34 31	9 4.0
16	12	27 46	8 57.4	16	11	34 53	9 3.5
16	10 $\frac{1}{2}$	27 55	8 58.4	8	10	34 54	14 9.1
8	11	28 3	13 50.8	12	11 $\frac{1}{2}$	35 4	7 29.1
8	10 $\frac{1}{2}$	28 18	13 50.5	12	12	35 16	7 21.4
8	11	28 30	13 51.0	16	11 $\frac{1}{2}$	35 25	9 5.3
12	10	28 37	7 15.6	16	11	35 27	9 3.2
12	10	28 51	7 21.7	12	10	35 28	7 31.8
12	11	29 10	7 18.3	12	12	35 47	7 27.4
8	10 $\frac{1}{2}$	29 18	14 5.7	12	11	36 15	7 10.6
16	11 $\frac{1}{2}$	1 29 21	+ 8 52.4	16	9	1 36 21	+ 8 48.8

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
8	10	1 36 31	+14 8.3	12	10	1 41 51	+7 29.9
8	11	36 34	13 57.6	12	9½	41 54	7 20.4*
8	11	36 36	13 52.8	16	9½	42 3	9 4.0†
12	10	36 55	7 21.7	8	11½	42 27	13 54.9
16	10	36 55	9 10.0	8	10	42 37	14 0.1*
8	10	36 57	14 4.6	12	10	42 51	7 11.6
12	11	37 10	7 25.7	16	12½	42 55	9 2.8
16	11½	37 11	9 7.2	16	12	42 55	9 3.9
16	11	37 39	9 7.8	12	11	43 13	7 20.6
8	10½	37 55	14 7.3	12	11	43 19	7 25.5
12	11	38 4	7 24.5	8	10	43 22	13 58.0
12	9½	38 5	7 32.1	8	10½	43 45	14 0.5
16	10	38 10	9 3.6	12	11	43 55	7 26.4
8	11½	38 28	14 4.4	8	10	43 57	13 54.5
8	11½	38 28	14 6.0	16	11½	44 5	8 53.4
12	9½	38 32	7 22.7	12	9	44 6	7 19.5
8	11	39 4	13 57.1	12	11	44 39	7 25.4
16	11	39 8	9 6.2	12	10	44 58	7 13.6
16	11½	39 33	9 4.4	8	11½	45 3	14 6.6
8	9½	39 47	14 5.6	8	11½	45 5	14 9.0
16	11	39 54	8 53.7	16	12	45 7	9 3.4
8	11	39 57	14 0.8*	12	10½	45 13	7 20.1
16	10	40 6	9 4.8	8	11½	45 41	14 9.1
12	10½	40 7	7 24.2	16	10½	46 15	8 57.4
8	10	40 22	14 7.5	16	9	46 15	8 51.6
16	11	40 26	9 5.6	16	11	46 22	8 59.7
12	11	40 29	7 15.2	8	11½	46 33	14 4.1
16	11	40 32	9 7.0	8	11½	46 48	13 55.8
16	9½	41 7	8 56.5	12	11	46 48	7 24.7
16	11½	41 12	9 6.4	12	10½	46 49	7 12.4
16	9	41 20	8 56.1	12	11½	47 10	7 15.8
12	10½	41 23	7 24.9	12	11	47 19	7 14.0
16	11	41 27	9 3.2	8	11½	47 21	14 0.3*
8	11½	41 29	14 8.1	8	11	47 32	13 52.1
16	10	1 41 42	+9 1.8	16	10	1 47 37	+8 54.5

* (4).

† (?) 756 Weisse.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
12	11	1 47 50	+ 7 22.3	12	8½	1 52 49	+ 7 28.6
12	10	47 59	7 21.1	16	10	52 50	9 3.5
16	10	48 16	8 57.3	12	9	52 57	7 20.4*
8	11½	48 17	14 3.7	16	11	53 3	9 0.9
8	11	48 23	14 6.9	12	9½	53 9	7 20.4
12	11	48 24	7 16.5	16	11	53 9	9 4.0
12	10	48 26	7 12.1	8	11½	53 18	13 55.9†
16	9½	48 26	8 51.4	8	11	53 19	14 0.9*
12	11	49 9	7 24.8	16	11½	53 24	9 2.2
12	11	49 14	7 31.5	16	10½	53 29	8 57.1
8	10½	49 21	14 2.1	8	11½	53 30	13 55.6
16	11½	49 31	8 49.9	8	10	53 33	13 48.3
16	11½	49 42	8 55.6	16	9	54 22	8 53.3
12	12	49 55	7 12.6	8	9½	54 38	14 1.7†
8	11	50 3	14 3.4	16	10½	54 39	9 6.1
16	11½	50 4	8 58.5	8	11½	54 47	14 4.7
8	10	50 8	13 47.3	16	10½	54 48	8 54.7
8	10½	50 9	14 0.7	8	11	54 49	14 2.5
12	9	50 10	7 12.6	12	10	54 56	7 11.6
12	10½	50 21	7 15.0	16	11	55 6	8 51.3
16	11	50 26	9 0.0	12	10½	55 13	7 18.6
16	11	50 59	9 1.0	12	10½	55 23	7 17.3
8	10	51 9	13 56.8	8	10	55 28	13 58.7*
12	11	51 11	7 14.5	12	9	55 46	7 25.9
8	8	51 14	13 53.6	16	11	56 1	9 6.9
16	10½	51 14	8 52.3	8	9½	56 12	13 50.9
12	11	51 25	7 12.9	8	12	56 16	14 1.7
8	11	51 32	14 7.1	16	11½	57 13	8 54.1
8	11	51 36	14 2.0	16	12	57 19	8 55.3
16	11½	51 41	8 54.1	16	12	57 22	8 50.3
8	11	51 56	14 8.6	16	12	57 30	8 56.0
12	11	52 1	7 16.4	12	11	57 32	7 15.9
12	12	52 13	7 13.3	12	10	57 45	7 17.0
16	11	52 39	8 56.4	12	12½	57 58	7 16.5
8	10	1 52 47	+14 3.5	8	10½	1 58 21	+14 6.1

* (4).

† Double.

‡ L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
12	10	^{h. m. s.} 1 58 33	[°] + 7 18.5*	8	11	^{h. m. s.} 2 11 38	[°] +11 59.6
12	11½	58 38	7 15.6	8	10½	11 50	12 0.4
12	11	58 39	7 16.8	8	11½	13 31	12 2.7
8	10	58 41	14 2.2	8	10½	14 58	12 4.4
16	10½	58 49	9 10.4	8	10½	15 18	12 2.2
8	11½	59 9	13 58.4	8	11	15 58	12 0.5
8	11	59 25	13 57.1	8	11	16 47	12 1.2
16	11	1 59 35	8 52.7	8	11	17 16	11 51.1
12	12	2 0 0	7 28.4	8	9½	17 20	12 0.1
12	11½	0 10	7 27.4	8	9	17 44	11 50.4
16	11½	0 16	8 51.9	8	12	19 9	12 4.5
12	11	0 35	7 31.3	8	12	19 19	11 57.0
12	11½	0 41	7 29.0	8	10½	19 26	12 4.1
12	11	0 47	7 26.7	8	10½	19 43	12 2.2
16	10	1 9	8 59.8*	8	11½	20 54	12 5.1
12	10½	1 17	7 14.2	8	10½	21 4	12 4.9
16	10	1 28	8 58.0	8	10½	21 45	11 57.9
16	11½	1 32	9 0.4	8	10½	22 37	11 54.9
16	10½	1 36	9 7.2	8	9	23 10	11 51.2
12	10½	1 37	7 12.8	8	10½	23 57	12 1.8
16	11	1 38	9 2.0	8	11	23 59	12 9.0
12	11½	1 41	7 11.5	8	10	25 20	11 58.6*
8	10½	1 42	14 8.5	8	11	25 20	11 55.3
12	10½	1 52	7 16.7	8	11½	25 38	11 55.3
16	10	1 58	9 0.2	8	11	26 2	12 1.3
12	10	2 53	7 10.7	8	10½	27 1	12 4.4
8	12	3 12	13 52.5	8	11	27 9	12 5.7
16	10½	3 15	8 56.7	16	11	27 10	18 46.9
16	10	3 21	8 55.2	16	10½	27 36	18 50.1
12	11½	3 23	7 23.9	8	10	27 38	12 8.3
16	9	3 28	8 52.9	16	11	27 41	18 50.9
12	12½	3 34	7 25.8	16	11	28 3	18 47.0
12	10	3 56	7 18.5	8	11½	28 17	11 51.9
8	11	10 39	12 6.3	16	10	28 22	18 48.7
8	11	2 11 2	+12 0.8	8	11	2 28 33	+11 51.4

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
16	11	2 29 44	+18 40.4	16	10	2 38 5	+18 43.2
8	10½	29 52	12 6.8	8	10½	38 14	11 54.1
16	10	29 55	18 43.1	8	10	38 23	11 52.6
8	11	30 4	11 54.3*	16	10	39 7	18 35.5
16	11	30 17	18 42.7	8	10	39 23	11 55.9
8	11	31 2	11 52.6	8	11½	39 35	12 6.2
16	10½	31 2	18 47.4	16	9½	39 37	18 37.6†
8	10	31 12	12 4.3	8	11½	39 42	12 5.9
8	9½	31 17	12 4.3	16	10½	40 13	18 42.1
16	11	31 58	18 43.7	16	11	40 19	18 34.7
16	12	32 4	18 43.2	8	9½	40 39	11 46.9
8	10½	32 5	12 4.2	8	11½	41 9	11 50.7
16	12	32 12	18 43.3	8	11	41 20	11 49.1
8	9	32 14	12 7.4	16	10	41 34	18 41.4
16	11½	32 23	18 45.0	8	11	42 17	11 52.0
8	9½	33 1	11 49.0	8	10	42 46	11 46.6
16	11	33 33	18 48.7	8	10	42 48	11 45.3
8	10	33 41	12 7.5	8	11	42 52	11 55.0
8	10½	33 54	12 2.5	8	10½	43 35	12 1.2
8	11	34 0	12 6.7	8	11½	44 28	11 54.0
8	11½	34 18	12 5.2	8	11	44 32	11 50.8
16	11	34 31	18 42.7	16	10	44 39	18 43.2
16	11	34 42	18 45.1	8	11	44 47	11 51.0
8	10	34 57	11 48.7	16	10½	45 11	18 42.1
8	10½	35 17	12 6.5	8	10½	45 14	11 52.2
8	10½	35 19	12 4.9	8	10½	45 20	12 5.6
16	11½	35 39	18 29.7	16	11½	45 25	18 35.1
8	9	36 11	11 57.1	8	10½	45 34	12 3.9
16	10½	36 17	18 40.4	8	10½	45 38	11 55.1
16	10½	36 18	18 34.7	16	10	46 10	18 43.9
8	10½	36 27	12 7.0	8	11	46 12	12 1.5
16	11	36 27	18 45.0	16	10½	46 49	18 38.4
8	11	37 11	11 49.8	16	11	47 17	18 34.9
8	10½	37 25	11 51.3	16	9	47 22	18 32.5
8	10	2 37 48	+11 55.1	8	12½	2 47 35	+12 4.0

* Small companion.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
8	10½	^{h. m. s.} 2 47 52	+11° 46.5	16	11	^{h. m. s.} 2 54 22	+18° 42.9
8	10	48 23	12 5.7	8	9	54 22	12 0.5
16	10½	48 36	18 29.2	8	11	54 33	11 52.6
16	11	49 21	18 36.8	16	11	55 2	18 42.0
8	11½	49 26	12 6.1	8	10	55 33	11 53.3
8	11½	49 47	12 5.7	8	9½	55 54	11 50.5
16	10½	49 49	18 41.8	8	11½	56 5	11 52.4
8	11	49 59	12 6.6	16	11½	56 36	18 31.4
8	11	50 8	12 7.1	8	12	56 43	12 7.7
8	9½	51 15	12 9.2	8	11½	56 45	12 5.6
16	11½	51 40	18 32.3	16	9	57 40	18 47.0
8	11	51 44	11 51.5	16	10	57 49	18 47.8
8	11½	51 54	11 51.8	8	12	57 54	11 52.5
16	10½	51 57	18 40.2	16	10½	57 57	18 42.7
8	11½	52 1	11 53.5	8	11½	58 18	12 4.7
16	10½	52 19	18 29.7	8	11	58 41	11 51.6
16	11	52 51	18 47.6	8	11½	58 46	11 52.9
16	11	52 52	18 43.1	8	10	2 58 47	11 55.8
8	11	53 0	11 56.8	8	11½	3 1 27	12 5.6
16	10	53 5	18 48.0	8	10	1 28	11 53.6
8	10	53 22	12 5.0	8	10	2 45	11 50.4
8	10	53 48	11 59.9	8	10½	3 14	12 4.1
16	10	2 54 0	+18 45.7	8	10	3 4 6	+11 57.3*

[APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,
OF
309 STARS NEAR THE ECLIPTIC,
OBSERVED IN NOVEMBER, 1855, AT MARKREE.

Days. Obs.	Mag.	α .			δ .	Days. Obs.	Mag.	α .			δ .
		h. m. s.						h. m. s.			
27	10	22 55 59	—	1	56.2	27	11½	23 17 25	—	1	56.0
27	10	56 13		2	10.3	27	10	18 15		2	9.9
27	10½	57 8		2	10.5	27	11½	18 43		1	57.9
27	9½	57 20		2	0.3	27	10½	19 19		2	7.2
27	11	58 8		2	5.3	27	11	19 51		2	9.5
27	11½	58 40		2	2.1	27	11	20 30		2	11.4
27	10½	59 20		2	7.4	27	12	22 29		1	56.9
27	12	22 59 33		2	8.4	27	10	26 13		0	16.3
27	12	23 0 16		2	2.2*	27	12	26 24		0	20.5
27	10½	0 37		2	9.5	27	11	26 26		2	8.5
27	11	0 42		2	12.2	27	11½	26 28		0	18.4
24	10	1 2		2	0.0	27	11	26 30		2	8.1
27	12	2 16		2	12.3	27	10½	27 40		0	30.7
27	9½	4 8		1	57.7	27	11	28 10		0	27.7
27	11	5 18		1	55.3	27	10	28 10		0	26.6
27	11	5 29		1	58.3	27	11½	28 12		2	11.0
27	11	5 57		1	59.9	27	11	29 47		0	15.9
27	11	6 12		2	9.2	27	11½	29 48		0	17.7
27	11	7 29		2	5.0	27	11	30 43		0	28.1
27	11	7 52		2	5.3	27	10	31 7		0	30.8
27	10	8 39		2	2.0†	27	11	31 14		0	31.0
27	11	9 15		2	9.2	27	10½	33 21		0	24.4*
27	11	10 2		2	13.5	27	11	35 4		0	23.2
27	10	10 49		1	59.9	27	11	36 23		0	27.1
27	11	11 9		1	55.0	27	11	36 34		0	19.4
27	11½	12 16		2	5.0	8	11	37 25		5	8.0
27	11	13 43		2	7.2	27	11	37 39		0	12.9
27	11½	13 44		1	55.0	27	11½	37 52		0	16.9
27	11	15 57		2	0.6	27	11½	38 31		0	30.0
27	10½	23 16 21	—	2	5.6	27	10	23 38 38	—	0	16.0

* Double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
8	11½	^{h. m. s.} 23 38 50	— 5 29.7	27	11	^{h. m. s.} 23 52 32	— 0 36.9
27		39 52	0 24.6	8	11	53 0	5 22.0*
27	11½	40 15	0 26.8*	8	10½	53 14	5 27.1
8	11½	40 22	5 18.8	27	10½	53 43	0 35.0
27	11	42 32	0 17.9	27	11½	54 15	0 23.9
27	11½	42 35	0 19.9	8	11	54 19	5 15.8
27	11	42 47	0 20.9	8	12	54 30	5 22.6
8	10	43 32	5 15.5	8	12	54 35	5 27.8
27	11½	44 22	0 19.0	8	11½	55 52	5 24.2
27	10½	44 26	0 18.8	8	11½	56 8	5 18.0
27	11	44 29	0 28.5	27	10	56 10	0 13.2
8	10½	44 50	5 15.6	27	10½	57 15	0 18.5
27	11	45 26	0 29.3	27	11	57 26	0 28.0
8	10½	45 31	5 19.2	8	10½	57 27	5 15.8
27	11½	45 34	0 25.9	8	11	58 5	5 24.5
8	11	45 36	5 14.4	8	11½	58 15	5 25.6
8	10½	45 53	5 19.4	27	11½	58 31	0 19.1
8	9½	46 5	5 23.3	8	11½	58 46	5 16.5
8	11	47 19	5 27.5	8	11	58 55	5 16.2
27	11½	47 30	0 16.3	8	12	23 59 54	5 14.8
8	11	47 56	5 12.2	8	11½	0 0 8	5 16.9
27	11	48 12	0 18.4	8	10½	0 49	5 8.7
8	10½	48 30	5 14.2	27	11	1 45	0 16.8
27	11½	48 41	0 21.5	27	11	1 48	0 30.3
8	12	48 44	5 25.9	27	11	2 51	0 32.0
8	11	49 4	5 22.8	27	11	4 6	0 33.5
8	11	49 28	5 14.4	27	10	7 52	— 0 33.8
8	11	49 37	5 15.0	8	10	43 54	+ 3 12.4
27	11½	49 54	0 20.2	8	11	46 46	3 15.6
8	9½	50 25	5 14.2	8	11½	47 4	3 26.1
8	10½	50 39	5 16.2	8	11	47 9	3 21.7
27	11	51 6	0 35.0	8	11½	47 16	3 26.9
8	11	51 19	5 16.9	27	11½	48 9	2 31.2
8	11	51 23	5 24.6	27	11	48 16	2 20.6
8	11½	23 51 24	— 5 18.0	8	11	0 50 2	+ 3 19.9

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
8	II	^{h. m. s.} 0 50 49	[°] + 3 17.6	8	II	^{h. m. s.} 1 2 26	[°] + 3 20.0
8	II $\frac{1}{2}$	50 57	3 18.0	27	II $\frac{1}{2}$	3 34	2 11.1
8	IO $\frac{1}{2}$	53 20	3 12.1	27	IO	4 41	2 25.4
27	IO	53 41	2 9.7	8	9 $\frac{1}{2}$	5 16	3 13.6
8	II $\frac{1}{2}$	53 57	3 15.2	27	9 $\frac{1}{2}$	5 20	2 7.9
8	IO $\frac{1}{2}$	54 53	3 10.9	8	9	5 24	3 23.3
8	9 $\frac{1}{2}$	55 10	3 25.9	8	II	5 35	3 12.0
8	IO	55 18	3 14.9	8	IO	5 37	3 12.4
8	9	55 24	3 26.2	27	IO	5 46	2 26.7
8	II	56 2	3 11.1	27	II	6 4	2 13.8
8	II $\frac{1}{2}$	56 22	3 19.4	27	IO	6 23	2 12.1
8	II	56 29	3 19.7	8	II	6 38	3 11.0
8	II	56 37	3 25.4	8	IO	7 4	3 26.6
27	II $\frac{1}{2}$	56 44	2 13.3	8	9 $\frac{1}{2}$	7 16	3 6.7
27	II	56 55	2 27.4	27	9 $\frac{1}{2}$	7 21	2 22.6
8	II	57 47	3 27.2	27	II	7 35	2 10.2
27	IO $\frac{1}{2}$	57 56	2 11.5	27	II	7 37	2 17.4
8	IO $\frac{1}{2}$	58 0	3 10.7	8	II	8 6	3 11.5
27	IO	58 13	2 15.0	8	II	8 22	3 17.6*
8	9 $\frac{1}{2}$	58 58	3 29.9	27	9	8 33	2 13.4
8	IO	59 0	3 23.7	27	IO	8 34	2 11.3
8	II $\frac{1}{2}$	59 22	3 11.2	8	9 $\frac{1}{2}$	9 13	3 28.1
27	II $\frac{1}{2}$	59 28	2 31.1	27	9 $\frac{1}{2}$	10 1	2 21.0
27	9 $\frac{1}{2}$	59 36	2 31.6	27	IO	10 39	2 20.6*
8	12	0 59 56	3 13.7	27	9 $\frac{1}{2}$	12 28	2 16.6
27	II	1 0 11	2 11.5	27	IO $\frac{1}{2}$	12 32	2 12.6
8	IO	0 24	3 11.6	5	IO	28 53	12 50.5
8	II	0 41	3 26.5	5	II	29 53	12 33.2
27	II	1 33	2 10.0	5	9 $\frac{1}{2}$	30 37	12 33.2
8	II	1 52	3 23.5	5	II $\frac{1}{2}$	30 49	12 31.4
8	II	1 52	3 10.3	5	II $\frac{1}{2}$	30 52	12 42.4
8	IO	1 55	3 11.1	5	9 $\frac{1}{2}$	31 23	12 44.7
8	II	1 55	3 9.9	5	9	31 58	12 44.0
8	12	1 55	3 20.7	5	9 $\frac{1}{2}$	32 13	12 37.4*
8	II	1 2 7	+ 3 18.0	5	9	1 32 33	+12 47.5

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
5	9	1 33 35	+12 39.6*	5	11½	1 48 6	+12 39.5
5	11½	33 41	12 43.4	5	10½	48 54	12 46.1
5	10	33 54	12 44.4	5	11	48 59	12 44.9
5	11	35 4	12 36.1	5	11½	50 45	12 31.1
5	9	35 8	12 30.2	8	11	51 56	10 15.8
5	11	35 19	12 30.8	5	10	51 59	12 33.1
5	10½	35 52	12 41.1	5	10½	52 41	12 44.3
5	9	35 56	12 42.5	8	10½	54 5	10 12.3
5	9½	36 23	12 30.8	8	10½	54 12	10 11.5
5	10½	37 28	12 39.4	8	11	55 38	10 26.6
5	9½	37 33	12 45.0	8	11	55 51	10 24.4
5	10½	38 48	12 44.3	8	11	57 36	10 21.0
5	8½	38 58	12 46.6	8	11½	57 39	10 16.4
5	10	39 1	12 45.8	8	11½	59 7	10 23.3
5	10	40 5	12 44.1	8	11½	1 59 12	10 14.2
5	9½	40 35	12 49.7	8	9½	2 0 18	10 17.8
5	10½	41 32	12 31.7	8	11½	1 33	10 10.0
5	11	42 51	12 37.0	8	11½	2 36	10 13.0
5	10½	43 1	12 40.5	8	11½	3 25	10 25.5
5	11½	43 16	12 44.2	8	11½	3 49	10 27.2
5	9½	43 19	12 40.8	8	11	3 58	10 19.5
5	9½	43 49	12 31.6†	8	11	7 24	10 25.3
5	9½	43 51	12 37.5	5	10	10 2	11 29.9
5	10	45 17	12 34.4	8	11	10 23	10 13.3
5	10½	45 24	12 46.8	8	11	10 53	10 23.6
5	11½	45 26	12 34.4	5	11½	11 42	11 29.2
8	11½	45 27	10 23.8	5	9½	12 19	11 29.0
5	11	45 39	12 34.3	8	12	13 26	10 21.4
5	10	45 47	12 50.3	8	11½	13 43	10 24.9
8	11	45 49	10 26.0	5	10½	13 49	11 29.5
5	11½	46 25	12 30.6	8	11½	14 29	10 24.3
8	11	46 29	10 20.8	5	11	14 48	11 34.2
8	10½	47 18	10 9.3	5	12	14 49	11 32.1
5	11	47 25	12 36.8	8	11½	15 30	10 9.4
5	10	1 47 47	+12 45.1	5	10	2 15 38	+11 43.5

* (4).

† L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
5	10 $\frac{1}{2}$	2 15 42	+ 11 32.4	8	10	2 24 35	+ 10 25.6
5	11	15 54	11 34.1	5	11	25 38	11 47.1
8	11	17 2	10 14.9	8	11	26 34	10 14.2
8	11	17 26	10 14.3	5	9 $\frac{1}{2}$	27 1	11 39.8*
8	11 $\frac{1}{2}$	17 50	10 21.5	5	9 $\frac{1}{2}$	27 14	11 41.8
8	12	18 3	10 22.9	5	11	27 31	11 34.8
5	11	19 28	11 36.8*	5	10	28 52	11 46.6
5	11	19 30	11 45.3	8	9	28 58	10 24.3
8	11 $\frac{1}{2}$	20 6	10 20.7	5	9	29 32	11 43.0
8	11	20 19	10 14.6	5	12	29 52	11 41.5
5	10	20 48	11 36.7	5	11	30 45	11 46.9
8	11	21 28	10 19.3	8	11	31 1	10 21.5
8	11 $\frac{1}{2}$	21 39	10 25.4	5	11	31 28	11 32.7
5	11	22 30	11 36.2	5	9 $\frac{1}{2}$	32 11	11 37.4
5	11 $\frac{1}{2}$	22 31	11 44.8	8	11 $\frac{1}{2}$	32 20	10 22.5
5	11	22 34	11 44.3	5	10 $\frac{1}{2}$	33 18	11 47.5
5	9 $\frac{1}{2}$	22 59	11 33.5	5	11 $\frac{1}{2}$	34 8	11 35.1
8	9 $\frac{1}{2}$	23 52	10 26.7	5	9 $\frac{1}{2}$	34 28	11 30.5
5	10	24 6	11 44.1	5	9	2 34 32	+ 11 39.9*
8	9	2 24 17	+ 10 25.1				

APPROXIMATE MEAN PLACES, FOR JANUARY, 1, 1850,

OF

145 STARS NEAR THE ECLIPTIC,

OBSERVED IN DECEMBER, 1855, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
7	11 $\frac{1}{2}$	23 27 2	+ 0 50.0	7	9 $\frac{1}{2}$	23 29 25	+ 0 51.9
7	9 $\frac{1}{2}$	27 16	0 46.6	7	10 $\frac{1}{2}$	29 38	1 6.1
7	11 $\frac{1}{2}$	28 16	1 8.4	7	9 $\frac{1}{2}$	30 22	1 2.4
7	11	28 21	0 57.1	7	10	30 52	1 1.9
7	11	23 29 6	+ 0 56.8	7	10	23 31 14	+ 0 52.5

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
7	10 $\frac{1}{2}$	^{h. m. s.} 23 31 16	+ 0 50.5	7	11 $\frac{1}{2}$	^{h. m. s.} 0 0 53	+ 1 4.1†
7	10	32 31	1 7.3	7	10	2 16	0 54.5
7	11 $\frac{1}{2}$	32 37	1 1.0	7	11 $\frac{1}{2}$	5 25	0 57.8
7	11 $\frac{1}{2}$	32 49	1 2.4	7	12	6 51	1 6.7
7	12	33 22	0 53.4	7	10 $\frac{1}{2}$	6 52	1 5.4
7	11 $\frac{1}{2}$	34 32	0 56.1	7	12 $\frac{1}{2}$	7 57	1 4.1
7	11	35 4	1 3.8	7	10 $\frac{1}{2}$	8 59	1 3.2
7	11 $\frac{1}{2}$	36 27	0 57.6*	7	10	9 8	1 0.1
7	11	36 52	0 51.2	7	10	9 26	1 3.7
7	11 $\frac{1}{2}$	37 0	0 57.2*	7	10	9 36	0 53.9
7	11	37 20	1 2.2	7	12 $\frac{1}{2}$	10 51	1 3.9
7	10 $\frac{1}{2}$	38 14	0 56.3	7	12 $\frac{1}{2}$	10 58	1 4.9
7	10 $\frac{1}{2}$	39 21	0 54.2	7	12	11 0	1 8.5
7	10 $\frac{1}{2}$	39 24	0 55.1	7	11 $\frac{1}{2}$	11 45	1 5.3
7	10 $\frac{1}{2}$	40 0	1 0.7	7	12	11 49	1 6.3
7	10	40 3	0 57.4*	7	10 $\frac{1}{2}$	12 48	1 7.9
7	10	42 17	1 4.1	7	10 $\frac{1}{2}$	13 35	1 2.4
7	10	42 33	0 59.6*	7	10	13 37	1 2.0
7	11 $\frac{1}{2}$	44 31	1 5.0	7	11	13 40	1 1.2
7	11	45 7	0 58.0	7	11 $\frac{1}{2}$	14 48	1 5.0
7	11	45 22	0 51.1	7	10	14 48	1 0.0
7	10 $\frac{1}{2}$	47 11	1 0.9	7	11	15 36	1 4.1
7	11	47 16	0 56.6	7	9 $\frac{1}{2}$	16 54	0 53.2
7	11 $\frac{1}{2}$	48 43	1 7.9	7	10 $\frac{1}{2}$	16 57	1 0.3
7	12	48 47	1 3.8	7	11 $\frac{1}{2}$	16 57	1 2.0
7	10	50 5	1 6.8	7	10	17 14	1 5.3
7	10 $\frac{1}{2}$	50 40	0 56.3	7	11 $\frac{1}{2}$	18 51	0 55.9
7	10 $\frac{1}{2}$	50 47	0 56.7	7	12	19 11	1 5.4
7	9 $\frac{1}{2}$	50 59	0 55.9	7	11	19 32	1 3.6
7	9	52 10	1 2.2	7	10	19 47	1 4.3
7	12	58 30	1 6.0	7	12	20 52	0 53.2
7	11	58 37	1 2.4	7	11 $\frac{1}{2}$	21 49	1 3.3
7	12	23 58 37	1 4.3	7	11	22 15	1 2.9
7	10	0 0 28	0 54.7	7	10	22 35	1 2.8
7	11	0 0 33	+ 1 2.3	7	11	0 22 51	+ 0 53.4

* (4).

† Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
7	11	0 24 23	+ 0 52.3	7	12	0 47 2	+ 1 8.8
7	11½	24 34	1 0.0	7	11½	47 43	0 53.5
7	11½	25 20	1 0.9	7	10	48 45	0 55.1
7	10½	25 24	0 54.9	7	10½	48 48	1 3.5
7	10½	27 4	1 7.2	7	9	49 9	0 52.0
7	11	27 16	0 55.9	7	10½	49 42	1 8.1
7	12	27 19	1 7.1	7	11	49 46	1 5.7
7	11	29 53	0 53.9	7	10½	51 10	0 47.1
7	11½	32 5	0 50.0	7	11½	52 25	0 50.4
7	11	32 20	0 57.3	7	10	52 32	0 54.4
7	11	32 32	0 53.1	7	11	52 37	0 50.2
7	9	34 12	0 58.5	7	11	52 59	0 54.0
7	11	35 7	0 55.6	7	11	53 35	1 1.1
7	11	35 17	1 0.2	7	11½	53 54	0 51.0
7	11½	37 52	0 50.7	7	11½	54 8	0 50.6
7	10	38 31	1 3.1	7	10	54 48	0 52.8
7	12	40 13	0 56.0	7	10	55 6	1 6.0
7	11	40 15	0 52.3	7	11½	55 13	1 5.6
7	12	40 24	0 55.8	7	11½	55 21	1 7.9
7	11½	40 35	0 54.0	7	11½	55 36	0 57.3
7	9½	41 27	1 6.0	7	11	55 45	1 7.2
7	12	42 19	0 53.8	7	11½	57 7	0 55.4
7	9½	42 42	0 58.5	7	10½	57 36	1 5.2
7	11½	42 48	1 3.2	7		58 7	0 52.5
7	12	43 7	1 3.5	7	11	58 20	0 47.6
7	11	43 16	1 4.2	7	9½	58 22	0 54.3
7	10	43 46	1 5.4	7	10	58 48	0 49.7
7	11½	44 31	1 3.4	7	11	59 0	0 54.2
7	12	44 37	1 4.8	7	11	0 59 26	1 4.1
7	11	44 42	1 1.3	7	11½	1 0 31	1 1.2
7	10½	45 49	1 5.6	7	11	0 31	1 3.8
7	12	46 13	1 4.6	7	11	1 0 35	+ 1 3.1
7	12	0 47 1	+ 1 5.3				

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,
OF
634 STARS NEAR THE ECLIPTIC,
OBSERVED IN JANUARY, 1856, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	°			h. m. s.	°
11	11	1 30 46	+14 56.4	11	11½	1 45 28	+14 48.7
11	11½	31 40	14 58.9	11	11	45 35	14 53.7
11	9	31 56	15 2.5	11	11½	45 47	14 54.6
11	10½	32 10	15 2.3	11	10½	46 57	14 52.7
11	11½	32 37	14 54.2	11	11	47 5	14 56.0
11	12	32 38	14 54.7	11	10½	47 15	14 52.0
11	12	32 43	14 51.3	11	10½	48 12	15 6.9
11	9	34 5	15 9.4	11	10	48 37	15 5.6
11	12	34 18	14 57.2	11	12	49 16	14 51.5
11	11½	34 42	14 48.1	11	12	49 26	14 52.0
11	12	36 18	14 56.2	11	10½	49 53	14 53.2
11	12	37 19	14 51.3	11	10½	50 21	14 50.3
11	11	38 42	14 55.1	11	9½	51 16	15 5.9
11	10½	38 43	14 53.4	11	9½	51 31	14 50.5
11	11	39 51	14 48.9	11	11	51 34	14 53.9
11	11½	39 57	14 54.8	11	12	51 55	14 57.4
11	11½	40 7	14 50.2	11	10	52 50	14 57.6
11	10½	40 27	14 53.8	11	11	54 2	14 56.2
11	11	40 47	14 51.2	11	11½	54 5	14 56.2
11	11½	41 46	14 56.0	11	12	55 12	14 51.8
11	11	42 0	14 53.8*	11	10½	55 24	14 50.5
11	11	42 18	14 51.2	11	12	55 49	14 53.3
11	11	42 36	14 52.9	11	10	56 21	14 56.6
11	12	43 7	14 50.4	11	10	57 24	16 26.4
11	11½	43 32	14 49.6	11	12	57 40	14 47.6
11	11½	43 39	14 53.1	11	11	57 43	16 16.8†
11	9½	43 54	14 52.3	11	11½	58 14	16 17.1
11	9½	43 56	14 48.9	11	11	58 35	16 23.4
11	9½	44 51	14 51.1	11	12	58 36	14 48.1
11	11	1 45 3	+14 49.0	11	11	1 59 41	+16 9.7

* L. of Double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
II	II	1 59 48	+16 10.3	II	II	2 14 23	+16 15.5
II	12½	2 0 52	14 54.6	II	II	14 29	16 10.8
II	11½	1 40	16 16.8	II	II	14 43	16 11.2
II	II	1 44	16 16.7	II	II	15 7	16 13.2
II	II	1 49	16 22.8	II	II	15 43	16 11.7
II	12	1 55	14 51.9	II	11½	15 50	16 10.5
II	10	2 17	16 14.6	II	9	16 21	16 6.4
II	9	2 41	16 17.0*	II	9½	16 47	16 10.9
II	10½	2 50	16 27.6	II	9½	16 53	16 12.8
II	10	2 57	16 28.8	II	10	17 17	16 16.1
II	10½	3 50	16 13.8	II	12	17 50	16 24.7
II	11½	3 51	16 9.9	II	12	18 4	16 22.8
II	II	4 11	16 26.4	II	11½	18 7	16 22.0
II	10½	4 22	16 21.2	II	10½	18 39	16 10.4
II	10½	4 48	16 26.0	II	11½	18 42	16 13.4
II	10½	6 8	16 22.5	II	11½	20 1	16 11.7
II	10½	6 29	16 27.4	II	11½	20 30	16 19.6
II	II	6 38	16 26.0	II	10	20 40	16 26.8§
II	10½	7 13	16 28.1	II	II	20 57	16 13.1
II	11½	7 53	16 8.8	II	II	21 15	16 25.1
II	11½	7 57	16 9.3	II	10½	21 43	16 7.6
II	11½	8 15	16 10.2	II	9	23 19	16 20.9
II	II	9 19	16 25.7	II	10½	23 25	16 28.0
II	II	9 53	16 14.0	II	10½	23 42	16 12.7
II	II	10 8	16 12.2	II	10	24 7	16 14.7
II	II	10 12	16 26.5	II	II	24 15	16 10.9
II	II	10 19	16 22.3	II	10½	25 36	16 25.2
II	10½	11 8	16 28.0†	II	9	25 41	16 20.6
II	10	11 17	16 13.4	II	12	25 54	16 25.8
II	10½	11 30	16 21.0	II	II	27 17	16 10.9
II	II	11 55	16 11.9†	II	II	27 39	16 17.5*
II	II	12 32	16 29.6	II	10½	27 46	16 23.7
II	II	12 37	16 25.4	II	II	28 10	16 15.6
II	9½	13 10	16 28.1	II	II	28 16	16 16.9
II	10	2 13 29	+16 28.2	II	10	2 28 31	+16 16.9

* (4).

† Largest of three.

‡ Double.

§ L. of double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
11	9	2 29 11	+16 10.1	11	10½	2 38 46	+16 23.0
9	11½	29 40	19 23.7	11	11½	38 47	16 21.9
11	11	30 3	16 15.2	11	11½	39 0	16 22.1
11	10½	30 13	16 14.6	9	11	39 16	19 9.7
11	10½	30 23	16 13.1	9	11	40 0	19 26.5
9	11	30 42	19 23.8	11	11	40 35	16 16.7†
9	10	30 57	19 23.4	9	11	40 49	19 12.4
9	11½	31 9	19 21.2	9	10	40 51	19 16.4
11	11½	31 34	16 12.8	11	10	41 15	16 14.2
9	10½	31 37	19 9.5	9	11	41 16	19 19.8
11	10½	31 47	16 15.8	9	11½	41 25	19 13.3
9	11½	32 55	19 21.1	11	11	41 44	16 12.1
11	12	32 56	16 12.0	9	11	41 54	19 25.9
11	9½	32 59	16 13.9	9	12	42 16	19 26.2
9	11½	33 5	19 18.4	11	12	42 19	16 22.6
11	9½	33 18	16 25.2	9	11½	42 36	19 25.4
11	9½	33 34	16 11.9	11	10	42 41	16 11.4
9	11½	34 9	19 21.5	11	9	42 48	16 18.1*
9	11	34 24	19 10.7	9	11½	43 3	19 9.2
11	10½	34 24	16 15.4	9	11	43 18	19 10.8
9	11	34 26	19 21.1	9	11	43 34	19 24.4
11	9½	34 41	16 21.9	9	11	43 40	19 25.8
9	11	34 49	19 13.5	9	11	43 56	19 24.6
11	11½	35 9	16 19.7	9	11	44 4	19 24.7
9	10½	35 19	19 24.3	9	11½	44 52	19 12.6
11	11	35 20	16 24.2	9	11½	44 58	19 7.8
11	10	35 47	16 20.2	9	11	45 38	19 30.8
9	10½	35 55	19 28.9	9	11½	46 55	19 28.1
11	10½	36 6	16 11.1	9	11½	48 24	19 26.3
9	10½	36 7	19 20.4	9	11½	49 46	19 23.4
11	11½	36 57	16 28.0	9	12	50 57	19 9.1
9	10½	37 20	19 15.5*	9	12	50 58	19 11.0
11	10	37 29	16 28.1	9	11	57 56	21 25.7
9	10	37 49	19 19.7	9	11	57 57	21 12.3
9	11	2 38 41	+19 10.0	9	11½	2 58 25	+21 23.3

* (4).

† p. 2.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
9	11	^{h. m. s.} 2 59 48	+21° 20.8	9	11	^{h. m. s.} 3 7 59	+21° 6.7
9	11	3 0 3	21 24.6	31	11	8 3	22 0.6
9	10	0 6	21 23.0*	31	11½	8 10	21 52.9
31	11½	0 18	21 52.9	29	11	8 12	15 28.7
31	12	0 33	22 6.4	31	11½	8 13	21 53.1
31	10½	0 38	22 5.9	9	11½	8 15	21 10.4
9	11	1 2	21 11.0	29	11	8 28	15 28.9
31	11	1 12	21 55.5	29	11	8 36	15 45.9
31	11	1 26	21 55.7	9	11	8 40	21 26.4
31	12	1 43	21 52.4	29	10	8 46	15 47.0
31	10½	1 45	21 54.9	31	10½	9 24	22 6.2
9	11½	2 11	21 26.4	31	11	9 33	21 57.7†
31	10½	2 11	21 56.8	29	11	9 34	15 46.0
31	10½	2 31	21 51.3	9	10	9 37	21 18.1
9	11½	2 41	21 23.5	29	10	9 47	15 37.4
29	8	3 33	15 35.9	31	9	9 48	22 6.8
31	12	3 39	21 51.6	9	11	9 52	21 15.7
31	12	3 46	21 54.3	29	11½	9 55	15 49.7
9	9½	4 7	21 20.7	29	11	10 42	15 29.4
31	9½	4 24	21 56.8:	31	11½	10 43	21 56.4
31	11½	4 34	21 51.2	29	10	10 49	15 33.4
9	12	4 36	21 14.9	29	11½	11 11	15 29.8
9	10½	4 37	21 26.2	9	11½	11 15	21 10.4
31	11½	4 37	21 52.9:	9	11½	11 22	21 9.7
29	11	5 2	15 33.6	29	11	11 32	15 46.5
31	11	5 10	21 56.1	31	10	11 49	21 56.8
9	11½	5 48	21 11.9	31	10	11 49	21 53.9
31	9½	5 56	21 57.0	29	11½	12 24	15 45.3
9	11½	6 4	21 10.7	29	9½	12 28	15 39.8
31	9½	6 5	21 56.8	31	11½	13 47	22 0.8†
29	11	6 27	15 43.9	29	11½	13 54	15 30.5
31	11	6 39	21 50.2	9	12	14 11	21 16.4
31	11½	7 0	21 52.6	9	11½	14 25	21 10.4
9	12½	7 19	21 9.3	31	11	14 30	21 54.2
9	12½	3 7 40	+21 9.6	9	11	3 14 56	+21 25.8

* Small companion.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
29	10 $\frac{1}{2}$	3 15 13	+15 32.4	31	12	3 22 48	+21 55.1
29	10	15 15	15 36.2	9	10	22 51	21 18.9
9	11	15 24	21 22.7	31	12	22 59	21 56.7
29	11	15 30	15 31.5	31	12	23 21	21 55.6
31	8 $\frac{1}{2}$	15 33	22 2.6	31	11 $\frac{1}{2}$	23 36	21 57.4
29	10	16 0	15 45.7	31	10 $\frac{1}{2}$	24 25	21 57.0
31	10	16 34	21 53.9	9	12	25 0	21 9.7
9	11 $\frac{1}{2}$	16 42	21 20.3	31	10	25 15	21 50.4
9	10 $\frac{1}{2}$	16 44	21 20.7	31	8	25 34	22 1.1 *
29	9 $\frac{1}{2}$	16 44	15 33.4	9	12	25 58	21 22.3
29	10 $\frac{1}{2}$	16 45	15 46.4	29	10	26 1	15 36.3 *
31	10	16 48	21 56.8	9	12	26 2	21 23.7
9	11 $\frac{1}{2}$	17 24	21 24.6	9	12	26 18	21 24.7
9	11	17 26	21 23.3	31	9	26 32	22 6.5
29	11	17 42	15 35.3	29	10	27 4	15 42.6
29	11	17 47	15 35.1	9	10	27 33	21 23.6
31	9 $\frac{1}{2}$	17 50	21 56.9	9	9	27 35	21 20.0 *
31	10	17 57	21 54.6	31	11 $\frac{1}{2}$	27 48	21 56.2
29	11 $\frac{1}{2}$	17 59	15 39.5	29	11	27 50	15 45.7
9	12	18 33	21 15.8	29	11	28 8	15 37.5
31	11	18 33	21 57.5	31	10	28 22	22 1.0 *
31	11 $\frac{1}{2}$	18 34	21 53.6	9	11 $\frac{1}{2}$	28 32	21 19.3
29	11	18 43	15 38.6	31	11	28 33	21 56.7
9	12	18 51	21 14.0	29	10 $\frac{1}{2}$	28 34	15 34.1
31	9 $\frac{1}{2}$	19 31	22 7.1	29	11	28 44	15 39.1
9	10 $\frac{1}{2}$	19 34	21 22.4	31	11	29 4	21 52.9
29	10 $\frac{1}{2}$	19 46	15 35.8	31	10	29 36	22 0.3
31	10	19 55	21 55.1	31	10 $\frac{1}{2}$	30 47	22 2.2
31	11	20 2	21 54.7	9	11	30 49	21 20.8
31	12	20 6	21 57.1	9	11	30 54	21 8.9
9	11 $\frac{1}{2}$	20 19	21 10.2	9	11 $\frac{1}{2}$	31 25	21 26.5
29	11	21 13	15 39.3	31	10 $\frac{1}{2}$	31 45	21 50.7
31	11 $\frac{1}{2}$	21 14	21 52.9	9	12	33 14	21 27.0
9	12	21 30	21 11.4	31	11 $\frac{1}{2}$	33 17	21 56.5
31	9 $\frac{1}{2}$	3 21 44	+22 4.8	31	11	3 33 17	+22 3.5

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°]			^{h.} ^{m.} ^{s.}	[°]
31	10	3 33 36	+21 56.2	9	11½	3 44 47	+21 23.2
31	11	33 39	22 2.9	9	11½	45 8	21 21.9
31	11	33 49	21 56.5*	31	11	45 17	22 4.9
9	10	34 15	21 16.5†	31	11	45 30	22 8.6
31	11	34 31	21 58.0	31	10½	45 59	21 46.9
9	10½	34 32	21 18.7	31	11	46 37	22 7.9
29	11	34 37	15 44.5	31	10½	46 40	22 11.0
9	11	34 39	21 30.0	31	11	47 54	21 53.5
31	9	34 46	21 57.4	31	11	48 26	22 1.3
31	11½	34 59	21 52.1	31	11½	48 28	21 53.8
9	11½	35 46	21 11.0	9	9½	48 36	21 7.0
9	11	36 0	21 12.9	31	12	50 2	21 54.8
31	10	36 8	21 47.6	31	11½	50 11	21 57.8
9	10½	36 54	21 23.1	31	11	51 15	21 57.6
31	11½	37 4	22 6.2	31	11	51 34	21 52.6
31	11½	37 11	21 55.2	31	10	51 58	22 1.7
31	10½	37 13	22 5.0	31	10½	52 43	22 0.4
9	10½	37 52	21 21.6*	31	10½	52 45	21 56.0
9	9½	38 35	21 24.5	31	11	53 9	22 0.6
9	11	39 12	21 15.9	31	11	54 18	21 48.2
9	11	39 17	21 16.5	31	11	54 29	21 48.6
31	10½	39 19	22 5.5	3	10	54 37	24 31.6
31	10½	39 23	22 6.7	3	11	55 3	24 28.1
31	11	39 31	22 5.0	31	11½	55 22	21 52.1
9	10½	40 36	21 16.5	3	11½	55 25	24 31.7
9	12	42 5	21 27.2	31	10	56 18	22 5.0
9	11½	42 19	21 27.6*	31	11½	56 40	22 5.7
31	11	42 25	22 1.3	3	11	57 11	24 18.5
31	11½	43 11	21 58.7	31	10½	57 17	21 59.7
9	10	43 13	21 27.2	3	11	57 21	24 27.4
31	10½	43 13	22 2.8	3	10½	57 45	24 20.0
9	11½	43 14	21 22.2	31	11	58 53	22 2.8
9	12	43 17	21 25.6	31	11	59 3	22 7.2
31	10	43 46	21 58.2	25	11	59 9	19 11.6
31	10½	3 44 15	+22 0.5†	3	10	3 59 13	+24 13.8

* L. of double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
3	11½	3 59 14	+24 16.1	3	12	4 7 5	+24 12.0
31	11½	59 32	21 55.4	25	11	7 5	19 27.1
31	10½	3 59 46	21 51.0	31	11	7 14	22 5.1
25	11	4 0 5	19 23.2	31	11	7 15	22 2.7
25	11	0 9	19 24.2	25	11	7 21	19 26.6
31	10½	0 9	21 57.8	31	10	7 33	21 55.7
31	9½	0 11	22 4.9	25	11	7 36	19 14.7
25	11½	0 44	19 19.9	31	12	7 44	22 3.1
31	10½	0 44	22 6.9	31	11	7 44	22 4.7
3	11½	1 12	24 12.8	3	11	7 49	24 12.9
31	10½	1 18	22 8.5	3	11½	7 50	24 14.8
25	11	1 34	19 19.0	3	11	7 50	24 11.3
3	10	1 47	24 11.0	25	10½	8 37	19 18.1
25	11	2 7	19 15.7	25	10	8 39	19 23.4†
25	11½	2 16	19 14.6	3	10½	8 45	24 21.6
25	11	2 24	19 26.0	25	11½	9 53	19 29.2
31	10	2 24	21 51.2	25	11½	9 54	19 30.8
25	11	2 36	19 19.4	31	11½	10 0	22 1.3*
3	9	2 51	24 26.7	3	10½	10 6	24 13.2
31	10½	3 16	22 1.3*	31	11½	10 8	22 1.3*
31	11	3 21	22 1.0*	3	11½	10 11	24 10.6
25	11	3 41	19 24.9	25	10	10 18	19 29.3
25	10	4 2	19 30.5	3	12	10 39	24 28.6
3	12	4 20	24 19.2	31	11½	11 32	22 7.4
25	10½	4 50	19 28.3	25	10	11 34	19 15.1
3	10½	5 1	24 25.6	31	11	11 37	22 6.7
25	11½	5 31	19 19.0	31	11½	11 42	22 2.5
31	10	5 56	21 55.1	3	10½	11 43	24 21.5*
31	10	5 58	22 4.9	3	11	11 54	24 26.2
3	12½	6 7	24 13.7	25	11	11 56	19 17.1
3	12	6 39	24 13.0	25	11½	12 4	19 18.0
25	10	6 41	19 25.5	25	10½	12 24	19 14.2
25	11	6 44	19 27.0	3	11	12 39	24 24.8
3	12	6 49	24 13.4	25	10	13 5	19 27.3
3	11	4 6 55	+24 13.6	31	11	4 13 30	+22 5.1

* (4).

† Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	[°]			^{h. m. s.}	[°]
25	12	4 13 42	+19 28.9	3	11½	4 25 27	+24 15.1
31	11	13 48	22 1.0	3	11	25 41	24 29.9
25	11½	14 5	19 28.0	25	11½	25 41	19 26.3
31	11	14 8	22 0.6	25	11	25 53	19 25.4
3	10	14 9	24 26.5	25	11	25 56	19 23.6
25	9½	14 37	19 18.2	3	11	26 2	24 22.7
25	10	14 40	19 22.5	25	11½	26 16	19 28.5
25	10	14 42	19 27.2	25	11	27 21	19 17.4
3	11½	15 14	24 16.8	25	11½	28 25	19 25.3
25	9½	15 22	19 17.9	25	12	29 17	19 13.6
3	11	15 37	24 19.5*	25	11	31 12	19 22.9
31	11½	15 54	22 6.4	25	11	32 1	19 19.2
31	11	16 2	22 7.0	25	11½	32 33	19 14.8
31	11	16 10	22 5.7	25	10½	32 48	19 17.7
31	11	16 21	22 5.2	25	12	33 15	19 13.3
25	11½	17 9	19 19.3	25	12	33 55	19 27.6
25	11½	18 3	19 15.2	25	11	33 56	19 29.0†
25	11	18 18	19 13.5	25	10½	34 5	19 27.5
3	11	18 24	24 14.9	25	11½	34 57	19 25.9
25	11½	19 10	19 16.3	25	11	35 5	19 19.2
25	9½	19 21	19 15.6	25	12	35 18	19 27.3
25	10½	19 34	19 15.2	25	11	35 43	19 18.2
25	12	20 38	19 18.0	25	11	36 29	19 30.4
25	11½	20 49	19 27.6	25	11½	36 54	19 27.3
25	9½	20 52	19 18.3	25	12	37 13	19 25.5
25	11½	21 6	19 27.1	25	12	37 30	19 23.4
3	12	21 37	24 10.9	25	10	37 48	19 12.8
3	12	21 48	24 16.9	25	11½	39 21	19 19.7*
25	12	22 12	19 18.4	25	11½	41 10	19 28.1
25	12½	22 13	19 19.3	25	11½	41 34	19 28.4
25	10½	22 31	19 30.3	25	11	42 0	19 26.2
3	12	23 14	24 13.0	25	10	42 6	19 30.0
25	11½	23 50	19 20.0	25	11½	42 42	19 23.0*
3	10	24 5	24 14.3	25	11½	43 1	19 15.8
25	11½	4 24 36	+19 23.9	25	11	4 44 5	+19 12.9

* (4).

† Double.

P

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
25	11½	4 44 13	+19 17.1	30	10½	9 38 21	+ 9 44.7
25	11	44 25	19 27.8	30	11½	39 51	9 45.3
25	11½	44 32	19 12.0	30	9½	40 0	9 53.2
25	11½	45 29	19 12.8	30	9½	40 1	9 51.1
25	10½	45 34	19 19.2	30	11½	40 4	9 48.5
25	11½	46 13	19 19.1	30	10	40 54	9 40.3†
25	11	46 51	19 20.5	30	10½	42 11	9 33.6
25	11½	47 39	19 15.0	30	11½	42 32	9 41.6
25	11½	47 56	19 18.8	30	11½	42 37	9 41.3
25	11½	49 16	19 28.1	30	10	42 58	9 39.3
25	11	49 23	19 29.7	30	11	44 49	9 39.8
25	12	4 50 20	19 30.6	30	11	44 53	9 52.6
30	10½	9 27 16	9 33.6	30	12	45 1	9 40.1
30	10	28 4	9 33.7	30	11½	45 4	9 46.4
30	10	28 16	9 36.3	30	11	45 41	9 37.5
30	12	28 16	9 45.5	30	11	45 43	9 35.2
30	12	28 30	9 41.7	30	11	46 10	9 48.5
30	11	28 56	9 49.0	30	11	46 23	9 37.9
30	12	30 4	9 50.4	30	11	46 31	9 36.0
30	11½	30 19	9 40.9	30	11½	47 12	9 51.4
30	9½	30 33	9 34.7	30	11½	47 25	9 46.2
30	10	30 54	9 33.8	30	11	47 44	9 35.0
30	10½	31 38	9 45.2	30	11	48 48	9 50.4
30	10	31 39	9 35.9	30	11	48 49	9 37.7
30	10½	32 2	9 44.2*	30	11½	49 25	9 34.4 :
30	9½	32 29	9 45.7	30	9	49 27	9 47.3
30	8	33 15	9 40.6	30	10	49 37	9 52.3
30	10	34 21	9 39.8	30	9	49 46	9 39.9
30	11	34 30	9 50.9	30	11½	50 23	9 35.1
30	10	35 27	9 38.6†	30	9½	50 29	9 33.5
30	11	35 30	9 49.8	30	11½	50 53	9 35.0
30	11½	36 40	9 48.2	30	10½	51 14	9 35.5
30	11½	36 43	9 48.3	30	11	51 32	9 36.9
30	11	38 1	9 35.6	30	10	51 39	9 35.3
30	11	9 38 14	+ 9 39.6	30	10	9 51 48	+ 9 37.5

* (4).

† Beautiful double.

‡ Small companion.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
30	12	^{h. m. s.} 9 52 53	+ 9 36.5	30	11½	^{h. m. s.} 9 57 4	+ 9 49.3
30	11½	53 2	9 35.4	30	10	57 41	9 43.9 *
30	12	54 27	9 47.4	30	9½	58 0	9 46.1
30	9½	54 56	9 38.5	30	12	58 50	9 45.1
30	10	54 57	9 51.9:	30	12	59 15	9 45.3
30	11½	56 11	9 38.7	30	11½	9 59 17	9 44.5
30	11½	9 57 3	+ 9 49.8	30	11½	10 1 13	+ 9 51.5

* (4). Small companion.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

88 STARS NEAR THE ECLIPTIC,

OBSERVED IN FEBRUARY, 1856, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
4	10½	^{h. m. s.} 3 1 20	+ 20 16.4	4	11½	^{h. m. s.} 3 9 14	+ 20 17.8
4	10	2 36	20 26.7	4	11	9 18	20 9.5
4	9	2 43	20 19.7	4	11	9 23	20 22.3
4	10	2 57	20 24.3	4	11½	10 41	20 26.3
4	11	3 34	20 22.2	4	11	10 56	20 27.3
4	11	3 34	20 26.4	4	11½	11 22	20 29.6
4	11	4 21	20 12.0	4	10	11 35	20 28.3
4	11	4 26	20 11.9	4	10½	11 39	20 20.2
4	11	4 57	20 29.7	4	11	12 36	20 19.2
4	11½	5 13	20 22.7	4	10½	13 56	20 15.9
4	10½	5 46	20 24.1 *	4	10	14 18	20 20.5
4	10½	5 56	20 19.5 †	4	11	15 33	20 7.5
4	11	6 47	20 27.2	4	11	15 42	20 13.2
4	11	7 35	20 13.8	4	11½	16 7	20 13.9
4	11½	3 8 35	+ 20 12.6	4	11	3 16 14	+ 20 11.8

* Double.

† (4).

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] ['] [°]			^{h.} ^{m.} ^{s.}	[°] ['] [°]
3	11½	3 59 14	+24 16.1	3	12	4 7 5	+24 12.0
31	11½	59 32	21 55.4	25	11	7 5	19 27.1
31	10½	3 59 46	21 51.0	31	11	7 14	22 5.1
25	11	4 0 5	19 23.2	31	11	7 15	22 2.7
25	11	0 9	19 24.2	25	11	7 21	19 26.6
31	10½	0 9	21 57.8	31	10	7 33	21 55.7
31	9½	0 11	22 4.9	25	11	7 36	19 14.7
25	11½	0 44	19 19.9	31	12	7 44	22 3.1
31	10½	0 44	22 6.9	31	11	7 44	22 4.7
3	11½	1 12	24 12.8	3	11	7 49	24 12.9
31	10½	1 18	22 8.5	3	11½	7 50	24 14.8
25	11	1 34	19 19.0	3	11	7 50	24 11.3
3	10	1 47	24 11.0	25	10½	8 37	19 18.1
25	11	2 7	19 15.7	25	10	8 39	19 23.4†
25	11½	2 16	19 14.6	3	10½	8 45	24 21.6
25	11	2 24	19 26.0	25	11½	9 53	19 29.2
31	10	2 24	21 51.2	25	11½	9 54	19 30.8
25	11	2 36	19 19.4	31	11½	10 0	22 1.3*
3	9	2 51	24 26.7	3	10½	10 6	24 13.2
31	10½	3 16	22 1.3*	31	11½	10 8	22 1.3*
31	11	3 21	22 1.0*	3	11½	10 11	24 10.6
25	11	3 41	19 24.9	25	10	10 18	19 29.3
25	10	4 2	19 30.5	3	12	10 39	24 28.6
3	12	4 20	24 19.2	31	11½	11 32	22 7.4
25	10½	4 50	19 28.3	25	10	11 34	19 15.1
3	10½	5 1	24 25.6	31	11	11 37	22 6.7
25	11½	5 31	19 19.0	31	11½	11 42	22 2.5
31	10	5 56	21 55.1	3	10½	11 43	24 21.5*
31	10	5 58	22 4.9	3	11	11 54	24 26.2
3	12½	6 7	24 13.7	25	11	11 56	19 17.1
3	12	6 39	24 13.0	25	11½	12 4	19 18.0
25	10	6 41	19 25.5	25	10½	12 24	19 14.2
25	11	6 44	19 27.0	3	11	12 39	24 24.8
3	12	6 49	24 13.4	25	10	13 5	19 27.3
3	11	4 6 55	+24 13.6	31	11	4 13 30	+22 5.1

* (4).

† Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
25	12	^{h. m. s.} 4 13 42	[°] +19 28.9	3	11½	^{h. m. s.} 4 25 27	[°] +24 15.1
31	11	13 48	22 1.0	3	11	25 41	24 29.9
25	11½	14 5	19 28.0	25	11½	25 41	19 26.3
31	11	14 8	22 0.6	25	11	25 53	19 25.4
3	10	14 9	24 26.5	25	11	25 56	19 23.6
25	9½	14 37	19 18.2	3	11	26 2	24 22.7
25	10	14 40	19 22.5	25	11½	26 16	19 28.5
25	10	14 42	19 27.2	25	11	27 21	19 17.4
3	11½	15 14	24 16.8	25	11½	28 25	19 25.3
25	9½	15 22	19 17.9	25	12	29 17	19 13.6
3	11	15 37	24 19.5*	25	11	31 12	19 22.9
31	11½	15 54	22 6.4	25	11	32 1	19 19.2
31	11	16 2	22 7.0	25	11½	32 33	19 14.8
31	11	16 10	22 5.7	25	10½	32 48	19 17.7
31	11	16 21	22 5.2	25	12	33 15	19 13.3
25	11½	17 9	19 19.3	25	12	33 55	19 27.6
25	11½	18 3	19 15.2	25	11	33 56	19 29.0†
25	11	18 18	19 13.5	25	10½	34 5	19 27.5
3	11	18 24	24 14.9	25	11½	34 57	19 25.9
25	11½	19 10	19 16.3	25	11	35 5	19 19.2
25	9½	19 21	19 15.6	25	12	35 18	19 27.3
25	10½	19 34	19 15.2	25	11	35 43	19 18.2
25	12	20 38	19 18.0	25	11	36 29	19 30.4
25	11½	20 49	19 27.6	25	11½	36 54	19 27.3
25	9½	20 52	19 18.3	25	12	37 13	19 25.5
25	11½	21 6	19 27.1	25	12	37 30	19 23.4
3	12	21 37	24 10.9	25	10	37 48	19 12.8
3	12	21 48	24 16.9	25	11½	39 21	19 19.7*
25	12	22 12	19 18.4	25	11½	41 10	19 28.1
25	12½	22 13	19 19.3	25	11½	41 34	19 28.4
25	10½	22 31	19 30.3	25	11	42 0	19 26.2
3	12	23 14	24 13.0	25	10	42 6	19 30.0
25	11½	23 50	19 20.0	25	11½	42 42	19 23.0*
3	10	24 5	24 14.3	25	11½	43 1	19 15.8
25	11½	4 24 36	+19 23.9	25	11	4 44 5	+19 12.9

* (4).

† Double.

P

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
25	11½	4 44 13	+19 17.1	30	10½	9 38 21	+ 9 44.7
25	11	44 25	19 27.8	30	11½	39 51	9 45.3
25	11½	44 32	19 12.0	30	9½	40 0	9 53.2
25	11½	45 29	19 12.8	30	9½	40 1	9 51.1
25	10½	45 34	19 19.2	30	11½	40 4	9 48.5
25	11½	46 13	19 19.1	30	10	40 54	9 40.3†
25	11	46 51	19 20.5	30	10½	42 11	9 33.6
25	11½	47 39	19 15.0	30	11½	42 32	9 41.6
25	11½	47 56	19 18.8	30	11½	42 37	9 41.3
25	11½	49 16	19 28.1	30	10	42 58	9 39.3
25	11	49 23	19 29.7	30	11	44 49	9 39.8
25	12	4 50 20	19 30.6	30	11	44 53	9 52.6
30	10½	9 27 16	9 33.6	30	12	45 1	9 40.1
30	10	28 4	9 33.7	30	11½	45 4	9 46.4
30	10	28 16	9 36.3	30	11	45 41	9 37.5
30	12	28 16	9 45.5	30	11	45 43	9 35.2
30	12	28 30	9 41.7	30	11	46 10	9 48.5
30	11	28 56	9 49.0	30	11	46 23	9 37.9
30	12	30 4	9 50.4	30	11	46 31	9 36.0
30	11½	30 19	9 40.9	30	11½	47 12	9 51.4
30	9½	30 33	9 34.7	30	11½	47 25	9 46.2
30	10	30 54	9 33.8	30	11	47 44	9 35.0
30	10½	31 38	9 45.2	30	11	48 48	9 50.4
30	10	31 39	9 35.9	30	11	48 49	9 37.7
30	10½	32 2	9 44.2*	30	11½	49 25	9 34.4 :
30	9½	32 29	9 45.7	30	9	49 27	9 47.3
30	8	33 15	9 40.6	30	10	49 37	9 52.3
30	10	34 21	9 39.8	30	9	49 46	9 39.9
30	11	34 30	9 50.9	30	11½	50 23	9 35.1
30	10	35 27	9 38.6†	30	9½	50 29	9 33.5
30	11	35 30	9 49.8	30	11½	50 53	9 35.0
30	11½	36 40	9 48.2	30	10½	51 14	9 35.5
30	11½	36 43	9 48.3	30	11	51 32	9 36.9
30	11	38 1	9 35.6	30	10	51 39	9 35.3
30	11	9 38 14	+ 9 39.6	30	10	9 51 48	+ 9 37.5

* (4).

† Beautiful double.

‡ Small companion.

OBSERVED IN JANUARY, 1856.

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Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
30	12	^{h. m. s.} 9 52 53	+ 9 36.5	30	11½	^{h. m. s.} 9 57 4	+ 9 49.3
30	11½	53 2	9 35.4	30	10	57 41	9 43.9*
30	12	54 27	9 47.4	30	9½	58 0	9 46.1
30	9½	54 56	9 38.5	30	12	58 50	9 45.1
30	10	54 57	9 51.9::	30	12	59 15	9 45.3
30	11½	56 11	9 38.7	30	11½	9 59 17	9 44.5
30	11½	9 57 3	+ 9 49.8	30	11½	10 1 13	+ 9 51.5

* (4). Small companion.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

88 STARS NEAR THE ECLIPTIC,

OBSERVED IN FEBRUARY, 1856, AT MARKREE.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
4	10½	^{h. m. s.} 3 1 20	+20 16.4	4	11½	^{h. m. s.} 3 9 14	+20 17.8
4	10	2 36	20 26.7	4	11	9 18	20 9.5
4	9	2 43	20 19.7	4	11	9 23	20 22.3
4	10	2 57	20 24.3	4	11½	10 41	20 26.3
4	11	3 34	20 22.2	4	11	10 56	20 27.3
4	11	3 34	20 26.4	4	11½	11 22	20 29.6
4	11	4 21	20 12.0	4	10	11 35	20 28.3
4	11	4 26	20 11.9	4	10½	11 39	20 20.2
4	11	4 57	20 29.7	4	11	12 36	20 19.2
4	11½	5 13	20 22.7	4	10½	13 56	20 15.9
4	10½	5 46	20 24.1*	4	10	14 18	20 20.5
4	10½	5 56	20 19.5†	4	11	15 33	20 7.5
4	11	6 47	20 27.2	4	11	15 42	20 13.2
4	11	7 35	20 13.8	4	11½	16 7	20 13.9
4	11½	3 8 35	+20 12.6	4	11	3 16 14	+20 11.8

* Double.

† (4)*

P 2

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
4	10½	3 16 45	+20 21.8	4	11½	3 30 57	+20 11.2
4	11	17 51	20 12.2	4	11	31 9	20 12.5
4	11½	18 9	20 16.5	4	11½	31 13	20 12.1
4	11	18 10	20 23.4	4	10	31 31	20 22.5
4	11	18 16	20 20.8	4	11½	31 33	20 12.3
4	11	18 38	20 22.5	4	10½	32 21	20 9.3
4	11	19 37	20 11.0	4	9	32 23	20 10.6
4	11	19 54	20 26.4	4	11½	33 29	20 11.4
4	11	20 50	20 11.4	4	10	33 37	20 20.1*
4	11	22 58	20 23.6	4	10½	33 43	20 12.1
4	10½	23 18	20 23.2	4	9	34 55	20 14.1
4	10½	23 58	20 16.7	4	10	35 38	20 10.8
4	11	24 57	20 16.1	4	10	35 53	20 19.4
4	11½	25 2	20 11.3	4	11½	36 23	20 11.3
4	11½	25 18	20 22.7	4	11½	37 14	20 26.5
4	11½	25 19	20 10.8	4	11	37 36	20 24.5
4	11	25 42	20 20.2	4	9½	37 48	20 24.3
4	11½	26 23	20 12.1	4	10½	38 49	20 9.7
4	11	26 55	20 10.5	4	10½	39 11	20 27.7
4	10½	27 6	20 12.7	4	12½	39 56	20 25.0
4	10½	27 28	20 27.4	4	11	40 34	20 14.9
4	11½	28 7	20 13.1	4	11	41 25	20 21.2
4	11½	28 26	20 16.7	4	11	41 54	20 11.7
4	11	28 38	20 32.4	4	11	42 2	20 13.4
4	11½	28 53	20 25.9	4	11	43 10	20 6.8
4	11½	29 5	20 24.4	4	11½	43 10	20 7.9
4	11	29 22	20 9.5	4	11	44 44	20 27.4
4	11	29 59	20 24.5	4	11	44 49	20 20.5
4	10½	3 30 9	+20 13.2	4	11	3 45 13	+20 26.8

* (4) Double.

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,
OF
581 STARS NEAR THE ECLIPTIC,
OBSERVED IN MARCH, 1856, AT MARKREE.

Days Obs.	Mag.	α .			δ .	Days Obs.	Mag.	α .			δ .
		h. m. s.						h. m. s.			
27	11	8 21 16			+18 15.0	28	12	8 32 3			+16 27.5
27	11	21 33			18 16.8	28	11	32 37			16 20.4
27	10	23 32			18 29.0	28	11	32 53			16 30.0
27	10	23 45			18 22.6	29	10	33 12			16 42.4
28	11	25 8			16 19.9*	27	11½	34 3			18 23.9*
28	11	25 21			16 12.9	27	10	34 3			18 31.5
27	11	25 50			18 16.5	28 29	9	34 15			16 29.3
28	11	25 56			16 28.0	29	11	34 18			16 45.5
27	10½	27 9			18 14.7	29	11	34 24			16 35.2
28	11	27 10			16 18.4	29	11	34 27			16 43.4
27	11	27 22			18 15.0	28	11	34 47			16 17.6
27	10½	27 33			18 15.8	29	10½	34 56			16 36.5
28	10½	27 36			16 20.0	29	10	35 9			16 40.5
28	10	27 49			16 14.0	28	11	35 38			20 48.2
27	10½	27 55			18 25.8	28	8	35 42			16 28.2
28	9	28 32			16 10.2	27	11	35 51			18 26.6
28	10	28 51			16 13.8	28	8½	36 0			16 27.1
27	9½	29 0			18 30.3	28	10	36 7			16 27.2
29	9½	29 43			16 46.7	28	10½	36 10			16 19.9
28	11½	30 17			16 24.9	28	11	36 12			16 26.5
29	11	30 19			16 45.4	28	11	36 18			16 26.5
28	11	30 21			16 29.1	28	11	36 29			20 47.2
27	9	30 22			18 29.6	29	11½	36 40			16 31.9
27	10	30 31			18 23.3	27	11	36 48			18 18.5
27	10½	31 0			18 19.0	28	11	36 51			20 44.1
29	11	31 8			16 45.1	27	11	36 55			18 14.4
27	10½	31 10			18 18.9	27	9	36 56			18 18.3
29	11½	31 38			16 40.8	29	10½	37 19			16 46.5
28	11	31 43			16 26.7	29	10½	37 22			16 34.3
28	10½	8 32 2			+16 29.8	29	11½	8 37 24			+16 39.9

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h.} ^{m.} ^{s.}	[°] ['] ^{''}			^{h.} ^{m.} ^{s.}	[°] ['] ^{''}
27	11	8 37 25	+18 19.7*	28	10½	8 44 16	+20 49.4
28	10½	37 36	16 16.1	28	11½	45 9	20 44.5
28	11	37 50	16 19.0	28	11½	45 18	20 40.2
28	11	37 56	20 31.4	28	11	47 42	20 42.9*
27	11	37 57	18 26.5	28	11	48 4	20 39.4*
28	11	38 0	20 34.3	29	11	48 10	16 41.0*
29	11	38 15	16 33.7	13	11½	8 59 57	14 33.3
27	11½	38 16	18 18.1	13	11	9 1 12	14 45.6
27	10	38 19	18 16.0	13	10½	1 22	14 43.7
29	10½	38 26	16 33.8	13	10½	1 44	14 42.1
28	10	38 27	16 23.2	13	11	3 40	14 41.5
28	10½	38 29	16 19.8*	13	10½	4 13	14 34.1
28	11	38 36	20 40.6	13	11½	4 27	14 47.7
28	11	38 41	20 34.2	13	10½	6 8	14 31.2
28	11	38 49	20 40.6	13	11	6 45	14 34.6
29	11	39 1	16 41.1†	13	10	6 55	14 47.2
29	11	39 8	16 46.2	13	11	7 9	14 42.2
27	11	39 30	18 17.1	13	11	7 44	14 35.0
27	11½	39 51	18 20.6*	13	10½	8 22	14 48.9
29	11	40 5	16 31.2	13	11½	8 42	14 49.0
28	9½	40 14	20 40.5	13	11½	9 18	14 49.7
28	11½	40 19	20 39.8	13	11	9 20	14 44.3
29	11½	40 19	16 37.8*	13	10½	9 33	14 29.4
27	10½	40 40	18 15.6	13	10½	10 18	14 45.5
27	11	40 54	18 20.9*	13	11	10 22	14 38.5
27	8	41 32	18 24.1	13	10	10 32	14 38.3
28	11½	41 37	20 47.9	13	11	11 21	14 47.9
28	11½	41 56	20 47.9	13	11	11 49	14 41.6
29	10½	41 59	16 29.8	13	11	12 6	14 37.5
28	10	42 6	20 48.5	13	11	12 6	14 39.6
29	11½	42 21	16 37.3	13	10½	12 56	14 39.3
28	10½	42 54	20 49.7	13	9½	13 36	14 33.5
28	11	42 56	20 44.0	13	11	13 38	14 38.3
28	10	43 59	20 31.7	13	11	15 58	14 42.0
29	11	8 43 59	+16 29.7	13	11½	9 16 0	+14 44.6

* (4).

† L. of Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		^{h. m. s.}	[°]			^{h. m. s.}	[°]
13	9½	9 16 12	+14 50.1	11	12	9 32 56	+9 10.8
13	11	17 22	14 31.9	7	11	33 15	10 20.6
13	12	18 48	14 33.8	11	11½	33 17	9 8.7
13	11½	18 52	14 34.1	7	11½	33 18	10 19.3
13	11½	19 38	14 48.7	13	11	33 18	14 38.4
13	11	20 20	14 38.6	11	11	33 28	9 10.9
13	11	20 56	14 35.7	7	11	33 38	10 29.4
13	10	21 17	14 32.2	13	11	33 39	14 38.4
13	10	24 13	14 33.5	13	12	33 45	14 47.7
13	11½	24 49	14 33.2	7	11	34 5	10 15.5
13	11	25 24	14 32.5	11	11	34 14	9 10.0
13	11	25 47	14 44.8	11	12	34 19	9 11.6
13	9½	25 47	14 29.7	13	11	34 32	14 32.0
13	10½	25 50	14 47.6	11	11½	34 44	9 12.2
13	11	28 2	14 48.0	7	11½	34 49	10 32.4
13	11½	28 18	14 49.0	13	9	34 55	14 48.2
7	10½	28 27	10 29.9	7	11½	35 13	10 32.6
7	9½	28 35	10 15.8	11	11½	35 25	9 9.0
7	10	28 49	10 18.2	7	10	35 37	10 15.4
13	11	28 55	14 31.1	13	10	35 37	14 33.4
13	11	29 10	14 33.8	13	11½	35 46	14 38.9
7	11½	29 49	10 16.9	7	11½	35 50	10 20.4
13	10	30 10	14 40.0	11	10½	36 0	9 5.9
13	10	30 14	14 41.5	11	10½	36 5	9 10.4
7	9	30 24	10 20.5	11	10½	36 14	9 9.7
7	8½	30 34	10 17.8	11	11	36 16	9 7.2
13	10½	30 38	14 31.5	7	9½	36 21	10 21.0
7	10	30 43	10 14.8	7	10	36 23	10 17.7
11	11	31 3	9 9.5	7	10½	36 38	10 30.8
7	10½	31 28	10 21.4	11	11½	36 40	9 7.8
7	11½	32 3	10 20.1	7	10½	36 51	10 18.2
13	12	32 3	14 46.5	13	11½	37 13	14 30.9
13	12	32 12	14 51.9	13	11	37 32	14 36.9
13	9½	32 54	14 48.4	11	9½	37 46	9 9.5
11	11½	9 32 55	+9 5.7	13	11½	9 37 50	+14 47.5

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	°			h. m. s.	°
7	10	9 37 53	+10 26.7	7	11½	9 45 31	+10 18.9
7	11	37 56	10 20.8	13	10	45 36	14 43.8
7	10½	38 9	10 20.0	13	12	45 42	14 30.9
11	10	38 29	9 9.0	7	11	46 3	10 28.6
13	11	39 4	14 39.0	7	11	46 18	10 20.7
13	11	39 9	14 36.2	11	10½	46 21	9 5.2
11	10	39 22	9 15.1	7	11	46 35	10 19.2
13	11	39 26	14 32.9	13	10½	46 45	14 49.1
11	11	39 34	9 4.8*	11	10	46 46	9 5.9
7	10½	39 59	10 28.2	11	10	46 48	9 4.6
7	11	40 16	10 28.1	13	11½	46 50	14 38.7
13	11	40 21	14 47.4	13	11	47 0	14 36.5
7	11½	40 34	10 26.5	13	11½	47 10	14 49.1
13	12	41 0	14 38.2	7	10	47 13	10 32.6
7	9½	41 42	10 28.7	7	10½	47 23	10 15.3
7	10½	41 59	10 32.8	24	11	48 0	16 48.2
11	10½	42 17	9 5.8	13	10	48 10	14 46.8
13	12	42 35	14 38.9	7	10½	48 20	10 27.3
13	11	42 39	14 43.2	13	10½	48 20	14 43.5
13	11½	42 49	14 45.7	7	11½	48 25	10 27.1
13	12	42 52	14 48.0	11	11	48 26	9 14.4
13	11	43 17	14 46.9	13	10	48 26	14 33.4
11	10	43 26	9 9.2†	7	11½	48 28	10 19.4
11	9½	43 29	9 12.1	13	10½	48 32	14 33.1
7	11½	43 33	10 16.0	24	10½	48 34	16 50.8
11	9½	43 41	9 5.8	11	11½	48 47	9 11.8
13	11	43 45	14 50.5	24	11	49 10	16 45.6
13	11	44 6	14 38.7	11	11½	49 16	9 7.6
7	10½	44 30	10 28.5	7	11½	49 19	10 15.7
13	11	44 37	14 29.6	11	11½	49 34	9 6.5
7	11½	44 51	10 31.2	7	11	49 35	10 16.8
11	11½	44 53	9 10.2	13	11	49 35	14 45.1
11	10½	44 58	9 7.3	24	11	49 42	16 36.2
11	10	45 5	9 8.0	11	10½	49 45	9 0.7
11	9½	9 45 23	+ 9 11.4	24	11	9 49 48	+16 34.5

* (4).

† Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
13	10	^{h. m. s.} 9 49 58	[°] +14 38.8	13	10½	^{h. m. s.} 9 56 8	[°] +14 42.2
11	11½	50 0	9 12.1	24	11	56 36	16 45.5
13	10½	50 4	14 47.3	11	12	56 37	9 5.9
13	9½	50 11	14 33.2	24	10½	56 59	16 44.8
13	11½	50 15	14 37.3	24	10	57 19	16 49.6
24	10	50 15	16 45.2	11	12	57 20	9 8.6
7	11	50 42	10 19.9	11	12	57 22	9 6.1
24	11	50 46	16 51.6	13	11½	57 30	14 42.6
7	11½	50 51	10 18.4	13	10½	57 40	14 35.9
7	11	51 3	10 16.6	13	10	57 46	14 46.6
24	10	51 9	16 41.4*	11	12	57 51	9 7.7
13	10½	51 13	14 33.9	11	12	57 53	9 10.1
13	11	51 15	14 34.4	24	9½	58 5	16 33.0
13	10½	51 30	14 33.0	24	10½	58 36	16 50.3
13	11	51 52	14 43.1	24	11	58 44	16 40.3
13	11	52 7	14 33.3	11	10	58 49	9 6.1
7	12	52 13	10 22.2	13	11	58 58	14 32.2
11	10	52 38	9 7.5	24	11½	59 17	16 43.7
24	10	52 42	16 39.4	11	11	59 18	9 5.3*
13	11	52 48	14 35.2	13	9	59 18	14 39.4*
11	11	52 56	9 4.6*	11	11	59 21	9 8.1
13	10½	53 4	14 44.0	13	11½	59 24	14 35.8
11	11	53 19	9 1.5	24	10½	59 35	16 44.5
13	9½	53 29	14 32.6	13	11	9 59 48	14 34.8
7	11	53 54	10 15.6	13	11	10 0 43	14 43.6
7	11½	53 55	10 21.3	11	12	0 53	9 6.8
24	11	54 3	16 34.3	24	10	1 15	16 52.0
13	10½	54 31	14 38.5	13	11½	1 16	14 35.4
13	11½	54 57	14 49.5	13	10	1 28	14 36.6
11	10½	55 4	9 6.1	24	9	1 35	16 40.0
11	10	55 17	9 7.4	13	12	1 41	14 38.1
24	11½	55 21	16 33.5	24	10½	1 43	16 40.9*
7	11½	55 26	10 25.5*	13	10	2 8	14 48.2
24	11	55 34	16 47.8	11	12	2 18	9 13.0
24	11	9 55 48	+16 32.9	13	10½	10 2 28	+14 31.3

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
13	10½	10 2 31	+14 39.7	27	11	10 36 20	+ 4 15.5
13	12	3 15	14 37.1	27	10	36 26	4 12.4
11	12	3 39	9 14.5	27	10	36 41	4 25.9
11	12½	3 44	9 8.6	27	11	37 11	4 21.2
13	10	3 48	14 49.3	27	11½	37 19	4 16.2
11	12½	4 0	9 12.2	27	11½	37 34	4 21.2
13	12	4 11	14 50.6	27	11	38 15	4 21.2
24	9½	4 20	16 36.5	27	10	38 27	4 17.7
13	12	4 41	14 51.2	27	10½	39 41	4 28.4
13	11½	4 57	14 41.5	27	10½	40 20	4 24.9
13	10½	5 27	14 44.1	27	10½	41 21	4 26.3
13	11	6 24	14 43.9	27	10	41 25	4 21.1
13	11	6 33	14 43.9	27	10½	42 39	4 26.7
13	11	7 48	14 35.9	27	11	43 59	4 17.3
13	11	7 55	14 48.6	27	10½	44 15	4 19.1
13	11	9 24	14 47.5	27	11½	45 14	4 21.9
13	11½	9 45	14 46.5	27	11½	46 3	4 27.6
13	11	11 33	14 50.5	27	10½	47 4	4 18.7
13	10½	15 23	14 43.0*	27	10½	47 25	4 19.2
13	11½	20 13	14 50.1	27	11	49 11	4 13.7
27	9½	27 39	4 23.3	27	11	49 18	4 14.9
27	11	27 51	4 24.6	27	10	49 27	4 17.6
27	10	28 33	4 27.5	27	10½	49 45	4 17.6
27	11½	28 46	4 28.6	27	11	50 14	4 16.2
27	11	29 20	4 23.5	27	11½	51 20	4 23.4†
27	10½	29 52	4 27.3	27	11½	51 37	4 28.5
27	10	29 55	4 26.5	27	10½	52 20	4 15.0
27	11	30 29	4 22.0	27	10	52 38	4 16.3
27	10½	30 34	4 17.8	27	10	53 11	4 15.8
27	11½	30 42	4 13.2	27	11	54 31	4 15.7
27	11	32 22	4 21.4*	27	11	55 25	4 25.7
27	11	32 38	4 21.7*	27	11	55 45	4 27.5
27	9	33 15	4 22.9	27	10½	55 58	4 22.9
27	11	34 23	4 27.7	27	11	56 32	4 19.2
27	11½	10 35 27	+ 4 14.7	27	9	10 57 22	+ 4 27.2

* (4).

† Double.

Days. Obs.	Mag.	α .	δ .	Days. Obs.	Mag.	α .	δ .
		h. m. s.	° ' "			h. m. s.	° ' "
27	11½	10 57 23	+ 4 24.2	27	9½	11 20 45	+ 4 17.8
27	11	58 23	4 18.4	27	12	21 5	4 26.2
27	11½	10 59 48	4 16.3	27	12	21 10	4 23.7
27	12	11 0 33	4 23.1	27	9½	22 0	4 24.4
27	10	1 31	4 24.2	7	11½	22 3	8 40.3
27	10½	4 24	4 28.1	27	12	22 23	4 10.4
27	12	5 37	4 27.9	7	12	22 30	8 40.0
27	9½	6 7	4 14.2	27	11½	22 47	4 19.2
27	12	6 54	4 14.1	27	10	22 53	4 15.2
27	11	7 1	4 22.0*	7	11½	23 19	8 46.5
27	11	7 17	4 16.2	7	11½	23 38	8 36.0
27	10½	7 32	4 25.6	27	9½	24 2	4 23.1
27	11½	9 33	4 17.9	27	10	24 4	4 15.0
27	12½	9 36	4 12.3	27	11½	24 56	4 19.3
27	12	9 38	4 16.3	27	9½	25 5	4 27.8
27	12½	10 51	4 28.9	27	10½	25 23	4 21.3*
27	9½	11 33	4 29.8	7	11	25 38	8 39.3
27	9	12 55	4 26.4	7	11	25 53	8 41.1
27	11	13 55	4 10.6†	27	11	26 18	4 29.0
27	10½	14 7	4 23.6	7	11	26 34	8 45.4*
27	11	14 28	4 21.1	27	11	26 49	4 25.7
27	11	14 42	4 12.9	27	11	26 54	4 29.5
27	11½	15 50	4 27.1	27	11	27 8	4 25.9
27	11½	16 0	4 26.0	7	11	27 40	8 35.2
7	10	17 19	8 42.8	27	12	27 56	4 31.7
7	10	17 42	8 35.1	7	11	28 3	8 35.3
7	10	17 52	8 51.7	27	10½	28 5	4 23.8
27	11	18 33	4 25.0	27	9½	28 40	4 23.3
27	9½	18 47	4 18.8*	27	10½	28 45	4 26.0
27	10	19 20	4 21.4*	7	11½	28 46	8 36.0
27	11½	19 21	4 24.0	27	10	29 46	4 31.2
27	10	19 33	4 13.9	7	10½	29 57	8 46.0
7	9½	20 3	8 42.4	27	10½	30 29	4 25.2
7	10½	20 7	8 39.6	27	11½	30 48	4 23.5
7	10½	11 20 13	+ 8 38.4	7	11	11 30 51	+ 8 37.7

* (4.)

† A 10½ N. p.

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STARS GIVEN IN MARKREE CATALOGUE, NOW
MISSING.

Mag.	α .	δ .	Date of Observation.
	h. m. s.	+ ° ' "	
9	0 24 15	+ 0 40.5	1853, September 5.
11	0 24 22	0 52.3	1855, December 7.
9½	1 1 15	3 9.8	1855, November 8.
11½	2 7 53:	16 8.8:	1856, January 11.
10½	2 30 13	16 14.6	1856, January 11.
10½	3 8 5	14 6.2	1854, November 23.
9½	3 12 38	20 4.2	1852, January 22.
11	3 15 38	14 20.9	1856, January 3.
11	3 31 33	20 7.4	1852, January 22.
11	3 36 23	20 11.3	1856, February 4.
10½	3 43 27::	20 22.3::	1849, January 26.
11½	4 9 9::	21 13.2::	1850, January 16.
10	4 23 59	21 27.7	1850, January 16.
9½	4 54 9	24 33.9	1851, January 31.
9½	9 30 33	9 30.8	1852, April 9.
10½	9 30 55	9 31.7	1852, April 9.
9	9 49 21	9 46.1	1850, April 12.
11	9 55 34	16 47.7	1856, March 24.
11	10 30 28	9 26.2	1850, March 12.
11½	10 33 6	5 59.5	1853, March 17.
9½	10 41 35:	9 30.8:	1850, March 13.
11½	10 41 49	9 24.4	1850, March 12.
9	11 11 33	4 31.8	1852, April 15.
12	11 22 23	4 10.4	1856, March 27.
9	11 40 11	+ 3 53.5	1850, April 17.
8	12 0 22	— 0 46.0	1854, March 3.
10½	12 9 14	0 51.0	1849, March 30.
9	12 37 13	4 25.8	1852, April 9.
8	13 48 6	11 35.1	1853, May 11.
9½	15 0 38	14 46.1	1853, April 27.
9	19 10 29	21 33.6	1848, August 19.
12	20 0 4	19 40.4	1848, September 22.
8	20 3 42	18 34.2	1850, September 5.
11½	20 6 52	23 24.9	1851, August 1.
8	20 16 52	—18 51.7	1849, September 19. Probably some mistake in the obser- vation.

Mag.	α .	δ .	Date of Observation.
11	h. m. s. 20 22 4	$-18^{\circ} 41.9'$	1849, October 1.
10	20 22 20	18 41.4	1849, October 1.
10	20 24 58	18 52.7	1848, August 31.
10	20 27 23	19 21.6	1848, September 18.
10½	20 30 24::	19 24.8::	1848, September 25.
9½	21 14 39	15 34.9	1851, August 4.
-	21 32 32	15 41.7	1851, August 4.
8	21 35 21	15 40.2	1851, August 4.
10	21 42 56	12 54.8	1848, October 14.
8½	21 48 7	15 49.0	1851, August 4.
9	21 48 28	15 47.5	1851, August 4.
10	21 49 9	11 47.6	1848, October 19. Probably some mistake in entering bars over which the star passed.
10	21 51 42	15 29.1	1855, October 13.
11	21 54 25	14 16.4	1848, October 25. Probably some mistake in entering bars over which the star passed.
10	23 1 50	$-11^{\circ} 36.2'$	1855, October 13.

Some of the stars interpolated on charts are also missing.

ERRATA IN FIRST VOLUME.

Page.	a.	δ.	Corrections, &c.
2	^{h. m. s.} 19 1 28	[°] —21 17.4:	[°] δ. —21 32.9 or A. Z. 307,224.
„	19 1 35	21 53.9	δ. —19 53.9
„	19 2 0	21 6.1	^{h. m. s.} a. 19 2 10
5	19 33 13	21 4.5	[°] δ. —21 2.2
6	19 37 47	21 16.9	^{h. m. s.} δ. —21 15.9
10	20 29 30	20 55.2	^{h. m. s.} a. 20 29 29 δ. —20 55.7
18	20 37 58	19 37.7	[°] δ. —19 37.5
20	21 19 28	14 56.3	^{h. m. s.} a. 21 19 58 δ. —15 3.6
„	21 20 5	14 58.2	a. 21 19 55 δ. —14 55.8
21	21 40 58	15 5.7	a. 21 41 58
„	21 52 47	15 27.4	a. 21 53 47
22	22 52 53	9 19.0	a. 22 53 3
„	23 6 23	4 35.8	a. 23 6 53 δ. — 4 43.3
24	23 31 26	4 51.2	a. 23 31 16
„	23 47 7	4 35.6	[°] δ. — 4 34.6
„	23 49 32	4 38.3	^{h. m. s.} δ. — 4 38.1
27	21 39 12	12 30.5	^{h. m. s.} a. 21 38 43 δ. —12 37.8 It thus becomes same as one observed in a former set on this night.
29	21 43 36	11 59.6	[°] δ. —11 59.8
„	21 47 54	14 3.0	δ. —14 0.7
30	21 49 16	14 3.0	^{h. m. s.} δ. —14 0.7
31	21 54 53	12 23.1	^{h. m. s.} a. 21 55 23 δ. —12 30.4
32	21 58 29	14 15.1	a. 21 57 29
„	21 58 37	13 4.5	a. 21 58 42 δ. —13 3.3
„	22 2 38	11 54.2	a. 22 2 48 δ. —11 56.6
33	22 5 46	13 35.3	a. 22 5 47 δ. —13 57.6
34	22 7 40	13 20.0	[°] δ. —13 10.7
35	22 13 53	13 45.1	^{h. m. s.} δ. —13 47.8
36	22 29 49	9 15.2	^{h. m. s.} a. 22 30 31
38	23 50 48	— 0 0.9 :	[°] δ. — 0 0.7
39	0 27 5	+ 2 56.1	δ. + 2 57.1
40	2 20 45	+12 46.0	δ. +12 33.8
41	23 26 26	— 2 9.8	δ. — 2 8.8

Page.	α .	δ .	Corrections, &c.
41	^{h. m. s.} 23 57 54	[°] — 2 6.4	Omitted in Catalogue.
42	0 40 56	+ 5 51.7	" " "
44	1 54 57	11 10.2	δ . +11 11.2
45	2 32 57	14 47.1	δ . +14 48.1
"	2 46 15	14 51.3	^{h. m. s.} α . 2 46 10 δ . +14 52.5
"	4 43 43	22 53.9	δ . +22 52.9
"	4 51 11	22 35.2	δ . +22 34.2
46	5 33 28	23 18.1	δ . +23 19.1
47	6 1 52	23 15.3	^{h. m. s.} α . 6 1 42
48	0 37 58	4 0.7	α . 0 37 59 δ . + 4 0.9
49	0 41 54	4 4.4	α . 0 38 54
54	2 23 0	14 14.9	[°] δ . +14 15.9
60	3 58 30	20 30.1	^{h. m. s.} α . 3 59 30
61	3 58 44	20 32.0	α . 3 59 44
63	5 16 59	22 56.1	[°] δ . +22 57.2
69	7 29 18	23 8.9	^{h. m. s.} α . 7 29 23 δ . +23 7.7
73	4 18 24	+21 9.3	α . 4 19 24
107	20 18 9	—19 46.6	α . 20 18 39 δ . +19 39.5
112	20 47 20	—17 40.8	40,391 H. C.
146	5 10 19	+21 35.3	^{h. m. s.} α . 5 10 21
162	10 34 57	+ 9 27.4	δ . + 9 27.8
182	20 7 19	—18 10.8	δ . —18 6.4

In the list of Errata given at the end of Vol. I., the second and third corrections should be rejected, as original observations are correct.

In all the Stars for October 15th, 1849, Declinations should have been entered as + not —.

ERRATA IN SECOND VOLUME.

Page.	α .	δ .	Corrections, &c.
92	^{h. m. s.} 20 6 42	[°] —21 48.8	^{h. m. s.} α . 20 7 11 δ . —21 41.8
181	10 54 37	+10 9.4	[°] δ . +10 8.4

ERRORS, &c., DETECTED IN STANDARD CATALOGUES DURING THE PROGRESS OF THE WORK.

B. A. C.

No.	Mag.	R. A.	N. P. D.	
4,848	7½	^{h. m. s.} 14 33 58.56	^{° ′ ″} 101 35 24.5	An observation with the Mer. circle on 25th May, 1848, gives for the place of this star ^{h. m. s.} a. 14 33 54.61 ^{° ′ ″} 101 35 25.28
5,326	7	15 56 22.03	113 12 25.6	Probably some mistake in the N. P. D., of this star, No. 39,387 A. Z., when reduced to the epoch of this Cat. gives ^{h. m. s.} 15 56 22.85 ^{° ′ ″} —23 15 11.5 and 29,214 H. C., gives 15 56 23.06 ^{° ′ ″} —23 15 6.9
6,165	7	18 3 26.70	113 8 52.4	This star was observed twice by Lalande, being Nos. 33,386, 33,387 in Lal. (B. A.) The mean of both brought up till 1850.0, is 18 3 55.83 113 8 51.9

RÜMKER.

No.	Mag.	R. A.	N. P. D.	
595	7	^{h. m. s.} 2 11 25.768	^{° ′ ″} +11 40 11.89	missing.
822		3 6 29.327	20 25 50.08	„
864		3 19 13.569	15 35 2.58	„
1,228		4 22 6.999	21 21 40.53	„
1,721		5 58 38.304	25 29 43.28	should δ be +25 39 43.28?
1,743	7	6 1 26.771	26 41 45.50	„ +26 42 45.50?
3,320		10 37 24.203	10 50 57.21	missing.
In Nach.		10 38 47.179	10 46	„
3,372		10 44 24.365	+ 9 55 52.58	„
4,347		13 24 38.153	— 7 26 2.32	should δ be — 7 36 2.32?
4,377		13 28 51.969	3 56 56.35	„ — 3 57 56.35?
4,462		13 39 20.683	7 59 15.58	„ — 7 58 15.58?
8,502		20 31 2.52	—18 42	missing.

BESSEL'S ZONES.

Zone.	Mag.	α .	δ .	Corrections, &c.
64	8 $\frac{1}{2}$	^{h. m. s.} 10 41 59.81	^{° ' "} + 5 57 16.7	Should α be ^{h. m. s.} 10 42 59.81 ?
64	8	10 42 24.79	+ 5 55 13.3	„ „ 10 43 24.79 ?
75	9	11 53 15.41	+ 0 8 41.5	„ „ 11 54 15.41
105	„	Table, Corr. K.	—	Should be +
107	„	Table, Corr. K.	—12	„ „ — 2
155	8	10 10 14.43	+10 13 9.6	δ . +10 11 9.6
155	8	10 10 6.64	9 56 8.6	δ . + 9 54 8.6
159	9	11 8 19.24	4 7 15.4	α . ^{h. m. s.} 11 9 19.24 ?
159	8	11 10 39.84	3 24 29.1	α . 11 11 39.84 ?
159	8 $\frac{1}{2}$	11 10 30.63	+ 3 50 44.9	α . 11 11 30.63 ?
185	8	20 4 27.09	—14 7 29.7	Missing.
273	9	9 5 19.82	+17 16 5.6	δ . +17 21 5.6 ?
273	9	9 14 23.77	14 55 25.1	Missing.
274	8	9 27 14.16	17 1 0.6	α . ^{h. m. s.} 9 27 24.16 ?
280	9	9 45 22.79	16 22 39.9	Mean place of this star to 1850.0 is ^{h. m. s.} 9 46 49 +16 15.1
				Two distinct observations at Markree, give 9 46 46 +16 15.1
280	9	9 51 59.82	16 45 12.5	Missing.
281	9	8 16 30.09	18 23 54.9	α . ^{h. m. s.} 8 16 20.09 ?
393	8	3 45 15.48	21 41 44.2	Missing.
393	9	4 7 3.71	21 58 53.6	„
394	9	2 8 12.88	16 16 24.5	δ . ^{° ' "} 16 6 24.5 ?
395	9	5 2 37.70	24 33 22.1	α . ^{h. m. s.} 5 1 37.70 ?
396	9	4 52 32.20	25 31 48.9	α . 4 52 42.20 ?
524	8 $\frac{1}{2}$	6 31 33.20	+22 9 10.7	α . 6 30 43.20 ?

WEISSE.

H.	No.		α .	δ .	Corrections, &c.
0	99	7	^{h. m. s.} 0 4 50.34	^{° ' "} +0 25 39.3	δ . +0 24 39.3
„	206	8	0 10 59.28	+0 37 35.7	δ . +0 36 35.7
„	401	9	0 22 54.09	—1 18 17.2	δ . —1 8 17.2
„	579	7	0 32 4.93	+8 23 51.1	α . 0 32 9.93
0	591	8 $\frac{1}{2}$	0 32 56.56	+5 51 3.6	α . 0 33 56.56 ?

H.	No.	Mag.	α .	δ .	Corrections, &c.
I	270	9	^{h. m. s.} 1 15 26.17	^{° ' "} + 4 18 35.9	δ . + ^{° ' "} 4 16 46.4
"	541	8	1 29 53.90	13 13 37.7	δ . + ^{h. m. s.} 13 23 37.7
"	787	8½	1 42 36.21	6 42 20.5	α . 1 42 33 21
"	881	9	1 48 13.87	13 6 48.1	δ . + ^{° ' "} 13 5 48.1
"	982	9	1 53 31.29	10 30 25.9	δ . + ^{h. m. s.} 10 31 25.9
"	983	9	1 53 35.89	12 37 50.2	α . 1 53 38.89
I	1,089	9	1 59 31.33	14 30 42.4	δ . + ^{° ' "} 14 40 42.4
2	100	9	2 5 47.41	+10 54 46.3	δ . + ^{° ' "} 10 57 46.3 ?
3	395	9	3 21 2.09	-13 41 18.8	δ . + ^{h. m. s.} 13 41 18.8
4	1,096	9	4 48 27.63	+13 40 37.4	α . + ^{h. m. s.} 4 48 26 63
9	1,306	9	9 59 22.22	7 34 11.4	Missing.
10	14	8½	10 0 42.73	14 2 6.3	δ . + ^{° ' "} 4 2 6.3
"	152	8½	10 8 4.61	9 33 17.2	α . 10 9 4 61 ?
"	176	9	10 9 14.13	13 40 59.0	δ . + ^{° ' "} 13 39 59.0
"	190	8	10 10 10.63	9 54 47.0	δ . + ^{° ' "} 9 52 47.0 ?
"	192	8	10 10 18.42	10 11 48.5	δ . + ^{° ' "} 10 9 48.5 ?
"	412	8	10 22 7.15	10 57 29.6	δ . + ^{° ' "} 10 57 20.6
"	438	4	10 23 35.35	10 13 16.7	δ . + ^{° ' "} 10 12 16.7
"	453	9	10 24 41.22	7 36 19.2	δ . + ^{h. m. s.} 7 36 49.2
"	540	9	10 28 45.07	5 21 2.9	α . 10 28 55.07 ?
"	553	9	10 29 23.90	14 54 38.1	δ . + ^{h. m. s.} 14 55 38.1
"	566	9	10 30 15.95	6 26 58.6	α . 10 31 15 95 δ . + ^{° ' "} 5 26 58.6
"	584	9	10 31 4.53	8 47 34.1	δ . —
"	812	8	10 42 58.84	5 53 20.0	α . 10 43 58 84 ?
"	952	6	10 51 31.04	4 34 14.9	δ . + ^{° ' "} 4 33 14 9
10	982	8½	10 53 7.87	3 7 38.6	α . 10 53 17 87 ?
11	163	9	11 8 36.33	4 5 39.1	α . 11 9 36 33 ?
"	206	8	11 10 56.93	3 22 51.0	α . 11 11 56 93 ?
"	276	9	11 15 21.45	+ 7 4 16.1	α . 11 16 21 45 ?
"	925	7	11 52 14.68	- 0 47 24.2	α . 11 52 4 68 ?
11	945	9	11 53 40.00	+ 0 6 36.7	α . 11 54 40 00 ?
12	60	9	12 3 13.97	- 0 7 21.0	} Some mistake in Bessel. Obs. at Markree, April 24, 1854, give for the first, when reduced to the epoch, 1825.0. ^{h. m. s.} 12 3 3.64 — ^{° ' "} 0 7 24.2 and for second ^{h. m. s.} 12 3 21.15 — ^{° ' "} 0 12 56.2 These places were verified with the Equatorial on May 7, 1856.
12	64	9	12 3 25.17	- 0 11 52.2	

H.	No.	Mag.	α .	δ .	Corrections, &c.
			h. m. s.	° ' "	h. m. s.
12	124	9	12 7 13.00	— 2 4 17.3	α . 12 7 10.00
"	414	9	12 23 13.35	3 11 21.4	α . 12 23 15.35
"	598	9	12 34 24.28	1 45 51.3	δ . — 1 45 2.4
"	813	8	12 46 22.68	3 32 27.5	δ . — 3 33 27.5
"	945	9	12 53 45.07	8 4 23.3	α . 12 53 35.07
"	1,025	9	12 58 18.56	— 0 44 5.8	δ . — 0 44 45.8
12	1,061	9	12 59 54.68	+ 3 48 25.6	δ . + 3 47 25.6
14	296	9	14 15 12.82	— 11 11 0.0	δ . — 10 11 0.0
"	360	7	14 18 16.61	12 37 3.6	δ . — 12 34 3.6
"	676	9	14 35 33.85	14 58 27.1	α . 14 34 33.85
14	705	9	14 36 30.91	— 13 4 59.4	α . 14 37 36.91
20	14	9	20 0 24.86	+ 5 2 22.5	δ . + 5 3 22.5
"	45	6½	20 1 39.71	7 57 34.0	δ . + 7 56 34.0
"		9	20 2 21.27	14 53 12.9	Omitted in Catalogue.
"	74	9½	20 2 36.92	+ 0 56 21.3	δ . + 0 56 31.3
"	133	8	20 5 4.52	— 6 33 16.7	δ . — 6 34 16.7
"	169	8	20 6 5.58	+ 13 57 12.5	δ . + 13 37 12.5
"	187	8½	20 6 56.45	— 6 47 17.2	α . 20 5 56.45
"	248	8	20 9 15.42	10 25 30.2	δ . — 10 25 20.3
"	257	8	20 9 42.53	13 20 31.6	δ . — 13 20 39.6
"	301	9	20 11 9.32	— 9 52 16.9	δ . — 9 55 16.9
"	321	9½	20 11 46.22	+ 9 46 43.3	δ . + 9 40 43.3
"	352	7½	20 13 9.10	+ 14 13 23.6	δ . + 14 33 23.6
"	363	8	20 13 24.29	— 5 38 6.1	δ . — 5 37 6.1 (See zone 100.)
"	374	8	20 13 51.34	— 1 0 26.9	α . 20 14 19.34 (See Weisse 20th 385.)
"	437	8	20 16 23.71	+ 9 10 41.5	δ . —
"	471	9	20 17 38.83	— 9 4 26.2	δ . — 9 42 26.2
"	473	7	20 17 45.99	+ 13 20 52.7	α . 20 17 50.00
"	485	9	20 18 20.31	3 37 25.4	α . 20 17 20.32?
"	589	9½	20 22 9.11	+ 1 17 43.6	δ . + 1 17 23.6
"	602	7	20 22 48.97	— 10 26 27.5	δ . — 10 26 37.6
"	675	8½	20 25 19.15	+ 9 40 14.3	δ . —
"	717	9	20 26 55.53	+ 5 8 53.9	α . 20 25 55.53
"	846	9	20 31 34.20	— 7 23 52.4	α . 20 31 34.80
20	900	8	20 33 43.13	— 15 48 36.7	α 20 33 46.13 δ . — 15 48 46.8

H.	No.	Mag.	α .	δ .	Corrections, &c.
20	976	9	^{h. m. s.} 20 36 41.28	+ 6 22 54.6	^{h. m. s.} α . 20 37 41.28
"	1,099	9	20 41 21.92	- 1 19 32.8	α . 20 40 21.92
"	1,109	9	20 41 42.64	- 2 24 5.4	δ . - 3 24 9.0
"	1,185	9	20 44 50.54	+ 7 10 20.3	δ . + 7 10 43.0
"	1,186	9½	20 44 51.51	+ 5 59 14.9	α . 20 44 51.82
"	1,239	8	20 47 9.12	- 7 37 11.5	α . 20 47 19.12
"	1,279	9	20 48 29.41	+ 4 34 47.9	δ . + 4 24 47.9
"	1,280	9	20 48 30.73	10 18 2.5	δ . + 10 18 32.5
"	1,287	9	20 48 38.37	+ 4 41 44.1	δ . + 4 41 34.1
"	1,298	9	20 49 7.00	- 9 30 28.0	^{h. m. s.} α . 20 49 8.00
"	1,344	8½	20 50 43.30	+ 7 58 51.9	δ . + 7 57 51.9
"		9	20 55 4.37	- 9 57 16.1	Omitted in Catalogue.
"	1,474	9	20 56 18.91	- 0 12 45.4	δ . - 0 12 55.4
"	1,477	9	20 56 21.96	+ 3 52 28.1	δ . + 3 52 38.1
20	1,497	9	20 57 22.46	- 10 34 38.2	^{h. m. s.} α . 20 57 41.46
21	7	9	21 0 14.98	- 5 47 58.2	^{h. m. s.} α . 21 0 24.98
"	14	9	21 0 27.79	+ 15 6 27.7	α . 21 0 29.79 δ . + 15 6 37.7
"	27	6½	21 1 20.38	- 10 3 9.1	δ . - 10 3 29.1
"	63	9	21 2 42.24	+ 14 44 39.6	δ . + 14 44 49.6
"	110	9	21 4 51.75	- 15 52 1.7	Missing.
"	366	9	21 14 49.72	13 22 34.8	δ . - 13 32 34.8
"	693	9	21 27 51.86	9 27 0.6	^{h. m. s.} α . 21 27 41.86 ?
21	1,076	7	21 44 14.08	11 8 52.0	δ . - 11 7 52.0
22	193	8½	22 8 20.23	12 5 50.1	δ . +
"	228	8	22 10 12.61	10 34 17.4	Not in Bessel.
"	272	9	22 12 17.93	- 8 20 10.9	^{h. m. s.} α . 22 13 17.93 (See
"	562	9	22 25 33.00	+ 11 0 18.3	Weisse 22, 295.)
"	1,214	9	22 55 53.82	- 10 30 36.1	δ . - 10 31 36.1
22	1 241	7	22 57 8.16	10 31 48.3	δ . - 10 32 48.3
23	60	9	23 2 58.98	5 46 3.7	^{h. m. s.} α . 23 2 48.98
"	62	8½	23 3 5.14	5 5 51.4	δ . - 3 5 51.4
"	455	8	23 21 18.79	4 2 53.1	δ . +
"	483	9	23 22 43.13	9 7 34.0	δ . - 9 17 34.0
23	1,154	8	23 54 23.09	- 5 9 10.6	δ . - 5 7 10.6

LALANDE.

No.	Mag.	α .	N.P.D.	Corrections, &c.
923	6	^{h. m. s.} 0 26 16.91	[°] 91 36 17.3	^{h. m. s.} α . 0 25 16.91 ?
2,193	9	1 3 23.90	81 19 16.3	α . 1 4 23.90 ?
2,473	8½	1 12 10.95	85 47 47.8	α . 1 12 0.95 ?
8,306		4 14 28.33	69 59 49.5	N.P.D. [°] 68 59 49.5
8,620	7½	4 23 48.79	67 44 10.1	^{h. m. s.} α . 4 22 48.79
11,532	8	5 54 34.41	63 14 31.7	N.P.D. [°] 63 19 31.7
15,412	9	7 43 44.64	65 15 32.9	^{h. m. s.} α . 7 43 48.64
17,494	8½	8 41 49.89	69 20 37.7	Missing. (See note in Lalande's Catalogue.)
18,743	8	9 21 36.58	73 21 25.0	α . 9 20 36.58
18,825	8½	9 24 13.02	75 7 25.3	Missing.
19,440	5½	9 45 38.67	80 7 32.3	α . 9 45 48.67
20,004	8½	10 8 6.35	82 19 30.2	Missing.
20,504	8½	10 25 38.92	79 20 35.7	N.P.D. [°] 79 21 35.7
20,560	8	10 27 54.14	79 45 51.6	^{h. m. s.} α . 10 27 44.14
20,592		10 29 0.19	79 36 0.7	Missing.
20,821	8	10 38 16.36	80 33 33.1	"
20,870		10 40 29.59	83 20 22.4	N.P.D. [°] 83 21 22.4
22,008	6½	11 26 17.00	81 46 53.8	N.P.D. [°] 82 46 53.8
22,068	6½	11 28 10.93	91 19 19.3	N.P.D. [°] 91 19 49.3 ?
				3,955 B.A.C., when reduced to 1800.0, comes out. ^{h. m. s.} 11 28 11.18 91 19 47.8 and 11,126 Piazzi is ^{h. m. s.} 11 28 10.90 91 19 47.0
22,766	9	11 57 57.03	93 52 24.0	There is probably a mistake of 18 or 20 seconds in R. A. of this star. Reduced to 1850.0, its place comes out ^{h. m. s.} 12 0 30.48 94 9 7.0 The place of a Star observed at Markree, on April 29, 1856, when reduced to the same epoch, comes out ^{h. m. s.} 12 0 12.82 94 9 3.5 This place was verified with the Equatorial, on April 30, 1856.
23,034	8½	12 7 49.30	90 34 42.0	Missing.
25,008	8	13 21 21.97	101 37 39.7	"

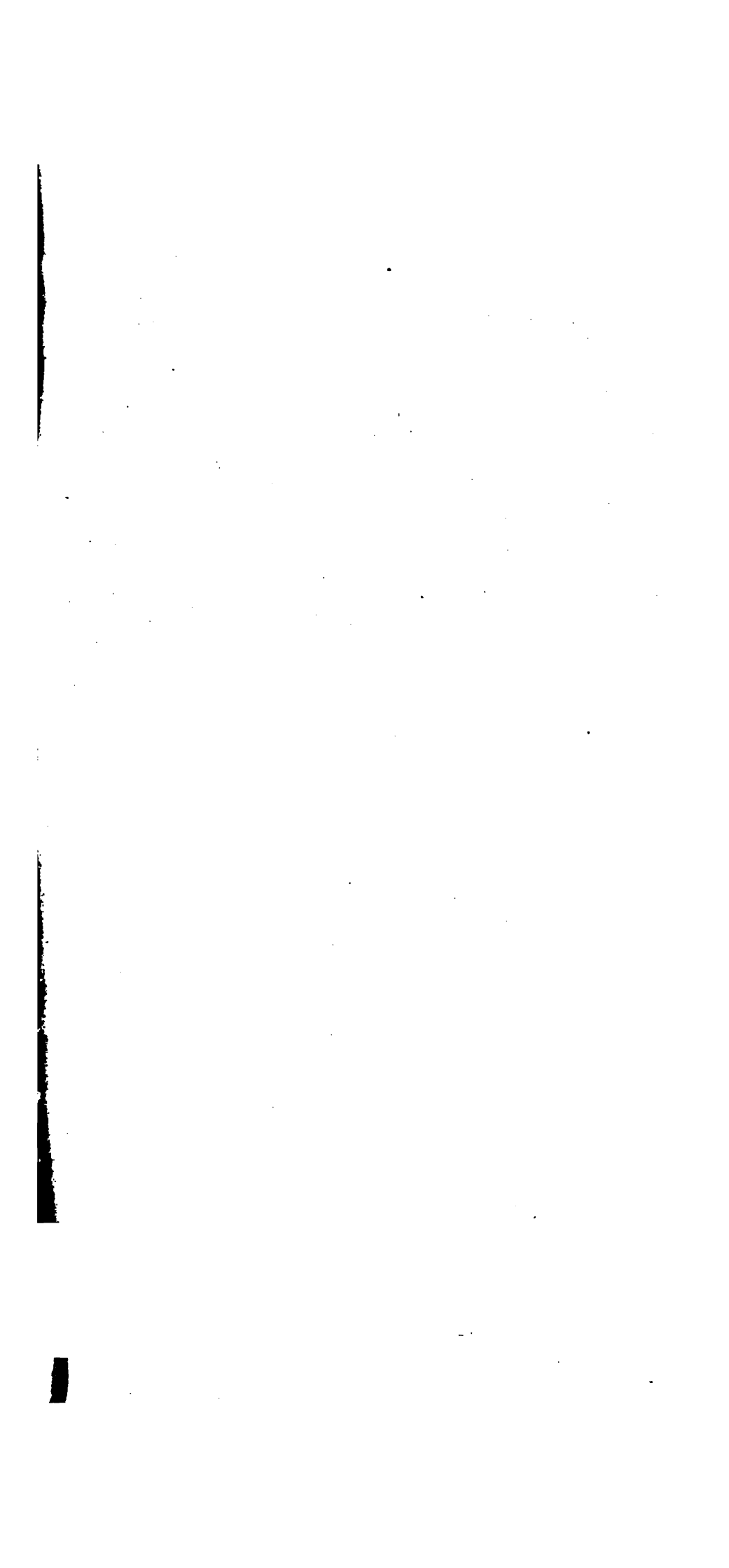
No.	Mag.	α .	δ .	Corrections, &c.
25,373	9	^{h. m. s.} 13 35 42.96	^{° ' "} 103 1 13.6	^{h. m. s.} a. 13 35 32.96 ?
25,894	8½	13 56 40.73	101 36 29.6	a. 13 57 40.73
26,097		14 4 59.83	101 15 1.2	a. 14 5 9.83
26,306	8	14 13 54.02	103 47 54.0	a. 14 13 45.19 *
28,372	8½	15 24 42.22	104 50 20.0	a. 15 25 42.22
28,512	5½	15 28 59.41	113 9 19.9	a. 15 28 29.41
28,725	8½	15 35 53.33	110 45 55.1	N.P.D. 110 35 55.1 ?
29,456	8½	16 0 1.97	111 57 40.4	N.P.D. 112 0 40.4 ?
30,276	6	16 28 48.05	110 1 17.8	N.P.D. 110 0 17.8
32,344	8	17 33 32.15	116 47 23.7	N.P.D. 116 52 23.7 ?
32,963	7½	17 50 5.25	109 10 9.2	N.P.D. 109 5 9.2 ?
33,305	7	17 58 41.45	115 37 8.9	N.P.D. 115 47 8.9
35,785	8	18 57 29.17	113 28 36.7	N.P.D. 113 29 36.7
37,165	6½	19 26 47.35	113 52 6.3	^{h. m. s.} a. 19 27 47.35
37,197	6½	19 27 34.91	113 52 20.6	a. 19 28 4.91
37,428	8	19 32 39.78	113 41 35.4	N.P.D. 113 43 35.4
37,959	9	19 46 0.65	108 54 23.9	^{h. m. s.} a. 19 47 0.65
38,558	8	19 59 6.79	103 35 9.6	^{h. m. s.} a. 19 59 6.50 N.P.D. 103 35 4.0
38,654	9	20 1 29.73	113 55 59.8	Missing.
38,693	6½	20 2 16.19	103 11 27.0	^{h. m. s.} a. 20 1 16.19
39,167	8	20 12 58.00	114 6 24.8	a. 20 12 28.00 ?
39,240	8½	20 14 42.82	86 39 8.5	a. 20 15 10.39
		In H.C. for 3rd Wire take	2nd.	
39,297	9½	20 15 59.27	100 30 40.3	N.P.D. 100 29 40.0
39,341	8	20 17 13.83	90 12 9.9	N.P.D. 89 47 51.1
39,433	9	20 19 29.58	112 49 1.5	} ^{m.} a. 20
39,435	9	20 19 31.59	112 49 29.7	
39,715	9	20 25 57.34	77 48 32.9	^{h. m. s.} N.P.D. 77 38 32.9
39,855	7	20 29 22.49	77 22 38.1	a. 20 29 17.48
40,603	8	20 49 26.67	101 46 53.5	N.P.D. 101 46 43.5
40,749		20 52 53.22	89 14 34.2	^{h. m. s.} a. 20 52 53.89
40,923	9	20 57 31.28	104 37 36.6	^{h. m. s.} a. 20 57 31.51 N.P.D. 104 37 41.4
41,109	8½	21 1 53.77	89 10 29.0	^{h. m. s.} a. 21 1 54.39
41,714	8½	21 17 12.96	102 57 0.3	N.P.D. 102 47 0.3
42,188	8½	21 29 23.68	102 41 49.3	N.P.D. 101 41 49.3

* The following note is given to this star at the end of Lalande's Catalogue:—"The middle wire is assumed to be right, and the last, which is 8.83 s. less, has been rejected."
By the Markree Observations, the last wire is correct.

No.	Mag.	α .	N.P.D.	Corrections, &c.
42,238	6	^{h. m. s.} 21 30 39.22	^{° ' "} 102 55 40.6	N.P.D. 104 55 40.6
42,613	7	21 41 49.41	100 15 53.1	N.P.D. 100 20 53.1
43,064	3	21 55 33.68	101 17 23.5	N.P.D. 91 17 23.5
43,148	8½	21 57 51.71	99 9 44.5	^{h. m. s.} a. 21 58 51.71
43,175	8	21 58 35.96	102 31 14.5	N.P.D. 102 20 14.5?
43,794	8½	22 16 10.79	102 20 39.6	N.P.D. 102 21 39.6
44,167	8	22 26 18.76	102 45 41.2	^{h. m. s.} a. 22 26 28.76
44,228	9	22 27 58.08	94 45 25.2	N.P.D. 94 44 25.2
46,578	8	23 36 20.06	90 34 42.4	N.P.D. 90 44 42.4

ARGELANDER'S ZONES.

Zone.	No.	Mag.	α .	δ .	Corrections, &c.
206	87	8	^{h. m. s.} 14 54 40.61	^{° ' "} —15 1 1.9	Missing.
207	103	9	15 37 52.80	17 40 43.1	δ . —17 41 43.1?
"	124	9	15 54 25.09	17 45 45.2	δ . —17 44 45.2
208	16	7½	14 44 38.40	19 59 22.0	^{h. m. s.} a. 14 43 38.40
209	32	9	15 0 52.56	21 28 1.7	δ . —21 38 1.7
"	33	9½	15 0 50.00	21 29 29.0	δ . —21 39 29.0
"	61	6½	15 29 23.79	22 38 55.6	δ . —22 37 55.6
"	73	9½	15 38 33.41	21 9 47.3	^{h. m. s.} a. 15 39 33.41
211	99	9½	17 26 19.06	19 48 6.1	Missing.
219	32	8½	18 0 37.67	20 55 44.3	a. 18 0 27.67
220	36	7½	17 26 30.77	22 55 10.8	a. 17 25 30.77
"	64	9½	17 49 6.20	24 55 20.9	Missing. δ . —24 45 20.9?
227	96	8½	18 52 18.74	19 51 28.8	^{h. m. s.} a. 18 51 18.74
"	153	8½	19 33 32.40	21 10 28.9	a. 19 32 32.40
238	37	8	19 22 40.02	21 34 31.7	Missing. δ . —21 44 31.7?
243	54	9½	20 3 59.40	20 18 26.2	^{h. m. s.} a. 20 3 49.40?
247	3	9	19 43 5.00	21 41 23.8	Missing. δ . —21 31 23.8?
308	36	9½	18 12 0.36	—25 6 12.4	Missing. a. 18 11 50.36?







100 11 1888

